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# What Does Everyone Need to Learn?

Toward a Universal Schema  
for Basic Education Curricula

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## EXECUTIVE SUMMARY

The characteristics of the family in which children are raised have an enormous effect on the kinds of formative experiences they enjoy, which, in turn, direct the trajectory of the remainder of their lives in dramatic ways. Children born into wealthy families have access to rich formative experiences, which lead to a greater variety of opportunities during adult life than children born into poorer families. But this hardly seems fair: Why should opportunity for success in adult life depend so much on the luck of birth, irrespective of natural ability or personal motivation? In recent decades, the international community has pushed for universal schooling as a means of equalizing, in part, the formative experiences of children in richer and poorer families. Unfortunately, many states find themselves in the unhappy position of having too few resources to provide every child with the lavish education they might desire. As a result, it has become increasingly important for states and other educational providers to seek out ways of maximizing educational benefit given limited resources, while still achieving the opportunity-equalizing function we assign to schooling.

This suggests the question: Is there some guideline curriculum planners can use to reduce the cost incurred by a given curriculum without jeopardizing the power of their schools to reduce the opportunity gap between rich and poor? Is there some minimal set of content to which everyone ought to have educational access? The international community has yet to establish a detailed answer to this question. International discussions about education have certainly underscored the great importance of educational and curricular quality, but descriptions of what counts as quality content have remained rather vague. Moreover, the common indicators used in international monitoring reports are unrelated to the quality of curricular content. Since access to schooling is nearly irrelevant if the quality of what students learn in school is insufficient, the international community needs to begin monitoring curricular content, in addition to the current indicators. This can be facilitated by an analytical device—a schema for basic education curricula—used to facilitate the evaluation and comparison of curricula in diverse contexts.

The foundation for such a schema may be established by means of moral responsibility. Consider a woman who knows boiling water kills bacteria. We would call the woman selfish if she refused to share this knowledge with those in her village suffering from water-borne diseases. Those who hold knowledge that has the potential to reduce suffering bear a responsibility to share that knowledge. When the responsibility to educate is framed in terms of Thomas Pogge's institutional conception of human rights, all people can fulfill the responsibility to educate by supporting educative institutions, broadly understood.

The responsibility to educate suggests a criterion for the curricular schema:

Knowledge that has the potential to reduce suffering forms the absolute minimum content of the curriculum of any sufficient educational system. Since human lives are quite complex, a list of all knowledge that has the potential to reduce suffering could become quite detailed. However, we can limit the detail of the curriculum without diluting its power to reduce suffering by following a principle of ensuring the curriculum empowers self-improvement. Thus, a skeleton list of content areas can be developed for the schema by examining all areas of life and applying the criterion of knowledge that has the potential to reduce suffering in light of the principle of empowering self-improvement. The schema can then be used in curricular development through a participatory process of local contextualization in which curriculum planners specify the knowledge and skills necessary to reduce suffering for each content area given the target students local context.

The resultant schema (the criterion, principle, and skeleton) may also be used to evaluate and compare existing curricula in external monitoring reports. An evaluation based on the schema analyzes the curriculum in terms of each of the content areas of the schema to determine how well the curriculum meets students local learning needs. The evaluation then identifies the curriculums strengths, weaknesses, and excesses (i.e. where the curriculum goes beyond the absolute minimum required by the schema). These excesses are not undesirable, but indicate areas that could be reduced in the case of resource shortages. Such an evaluation would ideally take the form of a dialog between external observers and local curriculum planners to leverage their different perspectives and come to consensus on students needs.

The recent push toward universalizing access to schooling is a laudable effort in the fight against poverty and human suffering by improving equity in educational access. However, schools will remain ineffective at furthering this goal if the knowledge and skills they provide to students bear little relevance to students' lives or do not cover all of the students' basic learning needs. Moreover, all people who support a given social order have a responsibility to ensure that society provides knowledge that has the potential to reduce suffering to those who need it. The schema for basic education curricula presented here supports both of these goals by providing a framework for thinking about curricula in terms of students' learning needs and an outline of categories of knowledge and skills to which all students ought to have access. The schema can be used as both a planning and an evaluative tool, and can thus support local and national educational reform efforts, as well as international monitoring of progress toward Education for All and the Millennium Development Goals. By paying greater attention to the content of the education we provide, we can move forward confidently with plans for expanding access to schooling, knowing that access to schooling means access to the vital knowledge students need to attack the challenges of their lives.

## DETAILED OUTLINE

### I. Introduction

#### A. The Push for Universal Basic Education

1. The luck of birth unfairly limits future opportunities
2. Schooling can reduce the opportunity gap between the rich and poor
3. Schooling has historically been accessible only to the elite
4. Recent international movements have called for the universalization of access to schooling

#### B. The Importance of Curriculum for Effective Education

#### C. The Lack of an Adequate International Description of Curricular Quality

1. Indicators used in international monitoring neglect curriculum
2. Current international instruments only vaguely describe curricular quality
  - a) Universal Declaration of Human Rights
  - b) World Bank Education Sector Strategy Paper
  - c) World Declaration on Education For All
3. Adequacy lawsuits in the United States

#### D. The Need for a Tool to Aid Planning and Analysis of Educational Curricula

### II. Foundation

#### A. Human Rights and Moral Responsibility

1. Education as a human right
2. An institutional conception of human rights

#### B. From Reactive Attitudes to Moral Responsibility

1. Reactive attitudes to our perceptions of others postures toward us
2. Exceptions to the reactive attitudes
3. Reactive attitudes to our perceptions of others postures toward third parties

#### C. Education as a Moral Responsibility

#### D. Limits of the Responsibility

1. Not all knowledge has equal potential to reduce suffering
2. Some possess more knowledge than others

3. People experience different degrees of suffering
4. The responsibility is proportional to the means of the teacher
5. The responsibility does not automatically include every piece of knowledge
6. The responsibility is limited by the prospective students willingness and capacity to learn
7. Permissibility of compulsory education for children

E. Fulfilling the Responsibility

1. Logical equivalence of the responsibility to educate and the human right to education
2. Fulfilling the responsibility by supporting educational institutions
3. Responsibility of rich nations to poor nations

F. Toward a Curricular Criterion

III. Framework

A. Preliminaries

1. Procedure for establishing the framework
2. Principle of empowering self-improvement
3. Individual focus versus communal focus

B. Foundational Skills

1. Communication
2. Numeracy
3. Reasoning
4. Research

C. Disciplinary Content

1. Health
2. Government
3. Economics
4. Employment

D. Community

1. Group identity
2. Interpersonal skills
3. Communal life

E. Functioning of the Schema

1. From Schema to Curriculum
  - a) Distinction between schema and curriculum
  - b) Local contextualization
  - c) Local participation
2. From Schema to Learning
  - a) Ignorance of delivery method
  - b) Limitations to the potential to reduce suffering
- F. Comparison with Other Proposed Universal Curricula
  1. Mortimer Adler: The Paideia Proposal
  2. E.D. Hirsch: Core Knowledge
- G. Compatibility with Other Educational Objectives
  1. Educating for Economic Growth
  2. Educating for Democracy
  3. Educating for Peace
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#### IV. Analysis and Monitoring

- A. Process
  1. Identifying strengths
  2. Identifying weaknesses
  3. Identifying excesses
  4. Comparison
- B. External Observers
- C. Examples
  1. Cambodia
  2. Virginia
  3. Comparison

#### V. Conclusion

## CHAPTER 1 INTRODUCTION

Despite any desire to the contrary, no one has the ability to choose the family into which he's born. And yet, the characteristics of the family in which we're raised have an enormous effect on the kinds of formative experiences we have as children, which, in turn, direct the trajectory of the remainder of our lives in dramatic ways. Children born into wealthy families have access to rich formative experiences, which lead to a greater variety of opportunities during adult life than children born into poorer families. But this hardly seems fair: Why should opportunity for success in adult life depend so much on the luck of birth, irrespective natural ability or personal motivation?

These formative experiences that shape the opportunities we have in adult life are available through a number of different means. They include: interactions and discussions with other people, visits to places outside the home (such as town centers, other cities or rural areas, historical sites, cultural events), hearing news from the community and abroad, exposure to printed materials, observing people performing different kinds of work, and formal schooling. When well executed, schooling provides a carefully planned series of educational experiences that help students acquire a desired body of knowledge and skills faster than they would through chance or trial and error. Schooling can therefore be designed to supplement the formative experiences of the poor so that they approach the opportunities to which the children of the wealthy have access on their own. Despite this opportunity to reduce the unfair difference in opportunity, by and large, only the rich or influential have historically enjoyed access to schooling, further exacerbating the disparities between rich and poor. Faced with the great inequalities of birth, the international community has pushed in recent decades for the achievement of universal schooling as a means of equalizing, in part, the formative experiences of children in richer and poorer families.

However, mere access to schooling alone isn't sufficient to guarantee that poor children receive the formative experiences they need to catch up to their wealthier peers. After all, the power of schooling lies in the careful planning and implementation of a series of worthwhile educational activities. For schooling to achieve the goal of increasing the level of opportunity available to poor students, providers must take great care in designing the content of the school program. In the end, failing to ensure that the school curriculum covers the knowledge and skills that students actually need may in fact be damaging to disadvantaged students, not only because they will continue to lack the knowledge they need to maintain an acceptable quality of life, but also because they will have lost a considerable amount of valuable time in their lives that could have been devoted to activities more benefi-

cial than the deficient curriculum, such as income generation, job training, or work experience. Indeed, in many countries, families—even among the poor—have been abandoning state-run schools in favor of private options due to a perceived lack of quality in public schools.<sup>1</sup>

Despite its importance, the quality of schools' curricular content has received less international attention in the push for universal schooling than other factors in educational development—such as access, facilities, and teacher quality—despite the central importance of the relevance of educational content on schools' ability to achieve their developmental purpose for the poor. Reports frequently do indeed mention the need for quality education, but the discussion seldom progresses beyond platitudinal appeals for quality, and any detailed discussions of quality rarely address curricular content. This can be seen in the indicators chosen to capture progress in educational development. The World Bank *World Development Report*, for example, lists literacy rates, primary completion rates, and enrollment gender parity ratios. To these, the United Nations Development Program (UNDP) *Human Development Report* adds public education expenditure and enrollment rates. Other regional reports include class size, textbook to pupil ratios, and percentage of teachers who have completed teacher training. While all of these indicators are certainly important in judging progress in educational development, they fail to describe the *content* of the school curriculum.

The absence of international observation of the strength of curricula may stem in part from the lack of a detailed statement from the international community on what curricular quality entails. As Siddiqur Osmani notes, monitoring the fulfillment of human rights, such as education, faces a fundamental problem

in the absence of a proper mechanism for setting up the benchmarks, against which monitoring is to be carried out. Everyone agrees that benchmarks are essential for any meaningful monitoring, but no one is quite sure how to find them.<sup>2</sup>

Although the documents guiding the universal schooling movement call for educational quality, they provide little assistance in understanding what quality entails.

Consider, for example, the foundational document for universal access to education: the *Universal Declaration of Human Rights*, which states in article 26:

(1) Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall

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<sup>1</sup>James Tooley, *The Global Education Industry: Lessons from Private Education in Developing Countries*, Washington, DC: International Finance Corporation, 1999, especially p. 85.

<sup>2</sup>Siddiqur Rahman Osmani, "Human Rights to Food, Health, and Education," *Journal of Human Development*, 2000, v 1, 273–298, at 290.

be made generally available and higher education shall be equally accessible to all on the basis of merit.

(2) Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace.

Although this clearly requires a guarantee of access to education, it leaves unclear exactly what kind of education the guarantee should cover, beyond being “directed to the full development of the human personality.”

As another example, the World Bank education sector strategy paper includes curriculum in among the objectives for systemic reform:

High on the agenda of many governments are activities aimed at improving quality in both basic and post-basic education: establishing a common set of expectations for learners that relate to what is needed for later study and work; building up a curriculum framework within which teachers can help their students meet those expectations; . . .<sup>3</sup>

But, the paper gives little guidance on how to establish these expectations or the shape they might take. The 2005 update to the strategy paper recognizes the historical limitations of the descriptions of educational development, stating:

Even though the benefit of education is really a function of the skills and competencies students acquire, rather than the duration of their schooling, most studies of educational outcomes are limited to analysis of years of schooling completed. Such studies can provide only a broad approximation of the increased earning potential, better livelihoods, and poverty reduction that are the result of the education enterprise. As such, they provide insufficient guidance to countries and donors alike as to the optimal use of resources.<sup>4</sup>

Although the World Bank recognizes, as a result, the need for a “results-oriented culture,” the extent of the move toward examining educational outcomes has been merely a shift from studying enrollment rates to studying completion rates,<sup>5</sup> which say little about what students actually learn.

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<sup>3</sup>World Bank, *Education Sector Strategy*, 1999, at 32–33.

<sup>4</sup>World Bank, *Education Sector Strategy Update: Achieving Education For All, Broadening our Perspective, Maximizing our Effectiveness*, 2005, at 66.

<sup>5</sup>*Ibid.*, at 68.

Perhaps the most detailed description in the international discussion of curricular content was provided by the World Conference on Education For All in Jomtien in 1990, which calls for educational opportunities that meet students' basic learning needs, including:

essential learning tools (such as literacy, oral expression, numeracy, and problem solving) and the basic learning content (such as knowledge, skills, values, and attitudes) required by human beings to be able to survive, to develop their full capacities, to live and work in dignity, to participate fully in development, to improve their quality of their lives, to make informed decisions, and to continue learning.<sup>6</sup>

This description gives a general direction for curriculum planning, including a statement of purpose for the curriculum and even naming a few key subject areas; however, in the decades following the Conference, the international development community has yet to operationalize the description into concrete tools that planners and external observers can use to study and improve curricula. Without these analytical and planning tools, policy-makers have little guidance in determining whether current programs sufficiently fulfill the right to education in a meaningful sense. The resulting uncertainty can be observed even in the school finance lawsuits in the United States, where courts, in the absence of any concrete grasp on what constitutes a truly sufficient education, have ordered state educational systems to increase spending, facilities, and programs to astronomical levels in the name of "adequacy."<sup>7</sup>

In addition to setting benchmarks for monitoring progress in educational development, nations facing resource constraints have a particular need for tools that will help them maximize the efficiency of the educational services they offer. Given the influence the educational content of these services has on their effectiveness at improving the opportunities available to the poor, the tools nations use must include analysis of how well curricular content meets students' actual learning needs. Such analysis can help identify how the curriculum can be streamlined to achieve the greatest beneficial effect for the resources available. Such efforts are already taking place on local and national levels, but have yet to reach international discussions, as seen in the international literature on educational development. The reluctance to approach the question of what everyone needs to learn on the international level is understandable, to some extent, given the vast diversity across the

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<sup>6</sup>World Conference on Education For All, *World Declaration on Education For All*, 1990, I.1.

<sup>7</sup>Alfred A. Lindseth, "The Legal Backdrop to Adequacy," in *Courting Failure: How School Finance Lawsuits Exploit Judges' Good Intentions and Harm Our Children*, Eric A. Hanushek, ed., especially pp 38–29. See also pp xvi–xvii of Hanushek's Introduction to the volume.

globe: Students in different parts of the world live different lives, and thus have different learning needs. Nevertheless, all students share in common their humanity; and therefore, the shapes of the curricula designed to meet those needs will have certain similarities. As the World Conference on Education for All put it,

While many needs vary considerably within and among countries, and therefore much of a curriculum should be sensitive to local conditions, there are also many universal needs and shared concerns which should be addressed in education curricula and in educational messages.<sup>8</sup>

As an international community working toward achieving universal access to meaningful education, we need an analytical device that will facilitate thinking about, planning, and evaluating curricula in terms of students' actual shared and unique learning needs. By asking what everyone needs to learn, we take the first step toward beating the odds of birth by providing all children and adults with the formative experiences they need for the opportunity to succeed.

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<sup>8</sup>World Conference on Education for All, *Framework for Action to Meet Basic Learning Needs*, 1990, section 1.3.

## CHAPTER 2 FOUNDATION: EDUCATION AS A HUMAN RESPONSIBILITY

### Human Rights and Moral Responsibility

The kind of education one provides will depend in some degree on the reason one has in mind for educating. Ever since the *Universal Declaration of Human Rights* (UDHR) of 1948, the international community has spoken of the *human right* to education. This language appeals to those who value education and desire all people to benefit from some minimum level of education since human rights have a certain normative and universal force: If education is a human right, one has a right to receive education merely by virtue of being a human being, and not because of one's status or social position. Unfortunately, the standard international instruments of human rights, such as the UDHR, are particularly vague in terms of exactly what kind of education is the object of one's human right. Moreover, various understandings of human rights theory provide very different pictures of how a right to education may be fulfilled.<sup>9</sup> Given the somewhat hazy understanding of the rights-based foundation for education, it is not altogether surprising that the international community lacks a clear direction for the minimum requirements for educational curricula.

Thomas Pogge has presented an institutional conception of human rights that may lead to a clearer understanding of the content of a human right to education. According to Pogge, a human right is

a moral claim *on* social institutions and therefore a moral claim *against* all those who participate in the coercive upholding of such institutions. The postulate of a human right to X is tantamount to the demand that social institutions are to be (re)designed in such a way that all persons affected by them have [reasonably] secure access to X.<sup>10</sup>

("Reasonably" secure access is both minimally adequate and limited probabilistically: One has reasonably secure access to X so long as the probability of being denied X does not exceed a certain limit and the distribution of denials to X is random among a given population.) Such a conception of human rights has the benefit of placing a portion of the responsibility of fulfillment of the right on all people in society (by requiring that they promote, work toward, or uphold institutions that preserve secure access) without requiring every member of society to

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<sup>9</sup>Thomas W. Pogge, "How Should Human Rights be Conceived?" *Jahrbuch für Recht und Ethik (Annual Review of Law and Ethics)*, 1995, v 3, 103–119, at 114.

<sup>10</sup>Thomas W. Pogge, "Human Flourishing and Universal Justice," *Social Philosophy and Policy*, 1999, v 16, 333–361, at 353.

actively provide or secure access first hand (not everyone is required to be a policeman in order to provide secure access to personal safety, for example, so long as they support an institution such as a police force, through political or economic means). Furthermore, since a human right is a kind of moral claim, the concept of moral responsibility could yield valuable clues for understanding the kind of education that could be the object of a human right, as well as the extent of the responsibility to provide secure access to education.

### **From Reactive Attitudes to Moral Responsibility**

In his essay on “Freedom and Resentment,” Peter Strawson notices that we human beings place a great deal of importance on the attitudes and intentions of others toward us, and that our beliefs about these attitudes and intentions significantly affect our personal feelings and reactions in ways that go beyond the immediate pleasure or pain engendered by a given event. Strawson illustrates:

If someone treads on my hand accidentally, while trying to help me, the pain may be no less acute than if he treads on it in contemptuous disregard of my existence or with a malevolent wish to injure me. But I shall generally feel in the second case a kind and degree of resentment that I shall not feel in the first. If someone’s actions help me to some benefit I desire, then I am benefited in any case; but if he intended them so to benefit me because of his general goodwill towards me, I shall reasonably feel a gratitude which I should not feel at all if the benefit was an incidental consequence, unintended or even regretted by him, of some plan of action with a different aim.<sup>11</sup>

These reactive attitudes based on our perceptions of others’ posture toward us—attitudes such as resentment and gratitude—demonstrate that, in general, we expect some degree of goodwill (or at least the lack of ill-will) on the part of those with whom we come into contact. Moreover, we don’t simply expect this posture of goodwill sometimes; rather, we require extenuating circumstances before moderating a reaction to an expression of ill-will. To determine exactly how strongly we insist on this posture of goodwill, Strawson outlines three classes of exceptions that moderate our reactive attitudes: The first case includes excuses such as ‘he didn’t mean to,’ ‘he didn’t know,’ ‘he was pushed,’ ‘they left him no alternative,’ and the like. In these cases, the excuse offered explains that the perpetrator of an action that would normally be understood as an expression of ill-will, had he not

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<sup>11</sup>Peter Strawson, “Freedom and Resentment,” in *Perspectives on Moral Responsibility*, John Martin Fischer and Mark Ravizza, eds., Ithaca, NY: Cornell University Press, 1993, at 49.

been externally constrained or had he known a missing fact, would have acted differently, in accordance with his actual feelings of goodwill. Although this kind of exception excuses a particular injury, it does not exempt the agent from the general expectation of a posture of goodwill altogether.

The second case includes excuses such as ‘he’s only a child,’ ‘he’s mentally underdeveloped,’ ‘he’s permanently deranged,’ ‘his mind has been systematically perverted,’ and the like. Unlike the first class, excuses such as these invite us to suspend our reactive attitudes toward the agent indefinitely, since the agent is seen as incapable of formulating postures of good- and ill-will or of understanding the connection between his actions and those postures.<sup>12</sup> But, this exception comes with a cost: By suspending our normal reactive attitudes, we adopt a kind of objective attitude toward the agent, and thereby sacrifice participation in a normal, adult interpersonal human relationship. Although this objective attitude may involve a variety of emotions (including repulsion, fear, pity, and some kinds of love), it lacks the reciprocal quality necessary for true *inter-personal* relationship. Strawson’s third class of exceptions involves a temporary adoption of the objective attitude toward another normal adult human being as a refuge from the strains of involvement, for example, or as an aid to establishing policy. However, we cannot maintain this objective attitude for long, given our need for interpersonal relationship built into our nature as social beings.

Although these three classes of exceptions are particular cases in which we moderate our reactive attitudes, the exceptions underscore the general importance that we place on our beliefs about others’ posture toward us, without which we would not require extraordinary circumstances to repress resentment and dismiss expressions of ill-will. Furthermore, to repress our usual reactive attitudes altogether would entail abandoning our normal relationships with other human beings, a radical redefinition of our nature. Now, although we expect others to maintain a posture of goodwill toward us in our interpersonal relationships, this expectation might exhibit merely wishful thinking on our part. However, our reactive attitudes of resentment and gratitude are accompanied by analogous reactive attitudes on behalf of a third party—indignation and approbation: We react negatively when one person expresses a posture of ill-will (and positively when one expresses goodwill) not only toward us, but also toward another, even when the action has no direct

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<sup>12</sup>This suspension of the reactive attitudes usually does not happen completely; rather, we suspend our reactive attitudes in the degree that we believe the agent to be incapable of making the connection between action and goodwill. In this way, as children grow up, we gradually expect greater and greater expressions of a general posture of goodwill from them, and tolerate less and less actions that would express ill-will, so that, for example, a toddler is excused for breaking a fragile ornament, while an older child is not, since it is expected that the older child would understand that respecting another’s property (by not breaking it) is an expression of goodwill.

effect on us ourselves. I express indignation, for example, that someone treads maliciously on your foot, even though I, physically, feel none of your pain. Moreover, we require the same kinds of exceptions in order to moderate our reactions on behalf of others as we require for the personal attitudes. The general expression of goodwill therefore gains a normative moral force since we hold one another accountable for our posture toward others.

### **Education as a Moral Responsibility**

With the goal of moving toward a statement of education as a human responsibility, consider first our reaction to the postures of the well-endowed toward those in dire need, by way of a thought experiment: Imagine a merchant sets out with a caravan of camels on a journey across the Sahara. Suppose that the prudent merchant is well prepared, and has brought more than enough food and water to make the arduous journey across the desert. Now, suppose the caravan comes across a man, alone, on foot, and dying of dehydration. What would be the normal reaction on behalf of the dying man if the merchant were to pass him by without so much as a word? One might say the merchant was selfish, uncaring, or calloused—inconsiderate, to say the least, and perhaps even wicked. All of these descriptions express indignation at the posture of ill-will that the merchant would demonstrate by showing no concern for the dying man, when he could have preserved the man's life without risking his own security.

A similar scenario could be constructed for hunger, shelter, physical security, and even knowledge. Consider, for example, a woman who moves to a new village and who knows that water-borne illnesses are prevalent in the area. She knows that boiling water kills bacteria, but she notices that none of the other villagers boil their water, and that many of the villagers have symptoms of various water-borne diseases. Since she is aware that her neighbors' illnesses could be alleviated if they boiled their water, not sharing her knowledge that boiling water kills bacteria that cause common sicknesses would constitute an expression of disregard for the well-being of her suffering neighbors, and thus would demonstrate a posture of ill-will toward them. (If the woman is unable to make the connection between her practice of boiling water and her neighbors' illness—say, if she does it merely out of habit or without understanding the reason behind the practice—we would overlook the *seeming* posture of ill-will with an excuse of the first type.) We say, then, that the woman has a moral responsibility to share her knowledge about water and health with her village, as this would demonstrate the posture of goodwill we expect of one another in our normal interpersonal human relationships. But, sharing knowledge—teaching—makes up much of the educational enterprise. Generalizing, then, those who have knowledge that could reduce the suffering of others

bear a moral responsibility to share that knowledge—they have a responsibility to educate.

### **Limits of the Responsibility**

This statement of the responsibility to educate has been rather crudely put and requires some refinement; for, responsibility is to a certain extent context-dependent: Just as our reactive attitudes vary in intensity with the degree of good- or ill-will we perceive, we recognize that a responsibility to act against suffering is moderated by the degree of suffering and the potential that an action has to alleviate it. This implies several limitations to a responsibility to educate. First, not all knowledge has an equal potential to reduce suffering. The potential effect on one's well-being of knowing that the earth revolves around the sun is certainly less than the potential effect of knowing that boiling water kills water-borne bacteria. While sharing knowledge about the solar system is indeed an expression of goodwill, neglecting to mention the solar system does not constitute an expression of ill-will in the same way as the health-preserving message about water. Second, some people possess more knowledge than others; thus, the responsibility to educate weighs more heavily on those who possess more potentially suffering-reducing knowledge than those who know less. Third, people experience different degrees of suffering such that the marginal potential for new knowledge to reduce suffering decreases as well-being increases. Consider an analogous responsibility to be charitable: In a society with such a high standard of living that all people have access to luxury goods, though the goods are unequally distributed, someone who owns three leisure yachts bears little responsibility to help out the "poor fellow" who has only one. Similarly in the other extreme, the responsibility to share knowledge weighs most heavily with respect to those in direst circumstances.

Additionally, the responsibility is subject to certain practical limitations. First, the responsibility to educate is proportional to the means of the teacher—one person cannot single-handedly share a piece of information with all six billion people on the planet, for example. Exceptions to the responsibility based on limited means fall under the first class in Strawson's analysis ('he couldn't do any more than he actually did'). Second, the responsibility to share knowledge does not extend automatically to every single piece of information that has the potential to reduce suffering. I am not responsible for sharing my bank account number with anyone, for example, even though a starving poor person could gain access to food with that knowledge. Rather, I have means at my disposal to express a posture of goodwill toward the needy other than giving out my banking information, which could endanger my personal (financial) security. The expectation of goodwill that prompts our reactive attitudes does not require every possible expression of goodwill, but merely one sufficient expression (or several collectively sufficient).

Now, one could easily object at this point that such a responsibility to educate doesn't actually exist: Since there are means of reducing suffering other than education, the perceived responsibility is merely to aid others in need, not necessarily to educate. The woman who knows about boiling water, for example, could have equally offered a water purification service for the whole village, boiling and distributing mass quantities of water. But, fulfilling a need instead of training the needy how they can act on their own behalf to meet their own needs places the needy in an unnecessary dependence relationship (a kind of subjugation, as it were) that expresses a certain disrespect for the dignity of the dependent.<sup>13</sup> Of course, one ought to provide assistance for immediate needs while training takes place; but, a sustained insistence on hoarding potentially suffering-reducing information expresses a posture of ill-will toward the needy (e.g., 'You aren't worthy to know'), notwithstanding other acts of assistance.

Finally, the responsibility to educate is limited by the prospective student's willingness (and capacity) to learn. By offering to share knowledge, a potential teacher exhibits a posture of goodwill toward those to whom the offer is extended, regardless of whether or not they accept. Moreover, a potential teacher is not held responsible for failing to share knowledge that the student cannot receive due to some physical or mental disability, which can be construed as an exception of the first type ('her efforts wouldn't have been effective, though she wanted them to be'). As long as those with potentially suffering-reducing knowledge make a good faith effort to make that knowledge available to those in need of it, they maintain the posture of goodwill we expect in our interpersonal relationships. Initially, the observation that the responsibility to educate requires only that knowledge be offered, not that it be accepted, may appear to have implications for the compulsory education statutes that many nations have adopted, in accordance with article 13 of the UDHR: Is it justifiable to force children to participate in educational activities (such as schooling) against their will? Although the responsibility of knowledgeable people to share their knowledge says little about this itself, it is important to note that parents bear a moral responsibility to act in the best interests of their children—who, insofar as they are not yet fully developed, do not always make the wisest choices—even if that action is against the immediate wishes of the child. Therefore, if states ought to protect children from parents who neglect their responsibility to act for the well-being of their children (and this is a question for legal and civic philosophy), then compulsory education for children is justified insofar as the kind of education mandated (and provided) contributes to the well-

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<sup>13</sup>Some thinkers phrase this idea in terms of *autonomy*, understood in such a way that is compatible with communal cultures. See, for example, chapter one of Harry Brighouse, *On Education*, London: Routledge, Taylor, & Francis, 2006.

being of children. This does not, however, imply that compulsory education must be provided exclusively through state-run schools.

### **Fulfilling the Responsibility**

The responsibility to share certain kinds of knowledge weighs first and foremost on the individuals who possess this knowledge, but requiring each person who knows to engage actively and directly in disseminating their knowledge could become cumbersome, especially in situations where schools could effectively and efficiently provide the desired training with specialized instructors and carefully programmed, intensive learning activities. We can relieve knowledge possessors of part of the responsibility to educate and simultaneously spread the responsibility even to those who do not yet possess this knowledge via Thomas Pogge's institutional conception of human rights. Given that education is both a human good and a means to other basic goods, and given that one can make a moral claim on those who have knowledge to share it, education seems to be a likely candidate for the object of a human right. Since supporting an institution that educates constitutes a satisfactory posture of goodwill just as sharing knowledge directly, fulfilling the human right to education entails fulfilling the moral responsibility to educate. Moreover, since offering instruction (whether formal or not) is itself a kind of institution under Pogge's broad conception, fulfilling the moral responsibility to share knowledge entails supporting an institution that provides secure access to education. Thus, the language of human rights is sufficient for discussing the moral responsibility to educate, as fulfilling one entails fulfilling the other.

The human right to education, then, is a claim on social institutions and a claim against those who uphold them that the institutions provide secure access to a certain minimum education. The knowledgeable can fulfill the human right to education (and thus their moral responsibility) either by passing on their knowledge directly or by supporting institutions in which others pass on the knowledge on their behalf. Furthermore, the unknowledgeable can participate in the fulfillment of the human right to education by working toward and supporting institutions that will provide them access to education.<sup>14</sup> Now, Pogge's conception of institution refers not merely to organizations like governments and schools, but to the entire collection of a social system's practices—the "rules of the game." As a result, the human right to education may be fulfilled in a number of different possible combinations of informal, non-formal, and formal educational experiences in the home, civil society, and the public sector—not merely state-run schooling—so long as the institutions collectively ensure secure access to education for all the people

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<sup>14</sup>Of course, participation in this way requires a certain minimum knowledge about education and how to manipulate existing social institutions.

they affect. Moreover, the advent of cheap, fast telecommunications, the commonly available means of relatively easy global travel, and the increase of global trade have fostered a kind of global closeness that renders all nations members of a global society. As such, citizens of wealthy countries cannot justifiably claim that they bear no responsibility to share their knowledge with the remote citizens of poor nations, since as members of a global society, they bear a responsibility to support global institutions (“rules of the game”) that provide secure access to education for all people, both near and far.

### **Toward a Curricular Criterion**

This discussion of the responsibility to educate suggests a criterion for determining the minimum content of the education to which all people ought to have access: Since withholding information that would reduce human suffering expresses the kind of posture of ill-will for which we hold one another accountable in the course of our normal interpersonal relationships, the education provided in a society must, at minimum, include sufficient information to address the human suffering present among the society’s people. Now, this criterion is expressed negatively, in terms of suffering. Phrasing the criterion positively—in terms of, say, improving quality of life—might sound more pleasant; however, it is difficult to see how anyone has an arbitrary responsibility to improve another’s quality of life, when the improvement isn’t linked with a reduction in suffering. Helping to improve another’s quality of life certainly constitutes an expression of good will, no matter the other person’s starting point; but, declining to help improve someone’s quality of life who already enjoys a decent standard of living does not constitute an expression of ill-will, whereas refusing assistance in the face of suffering does. Level of suffering provides a reasonable mechanism for judging the limits of the responsibility to educate.

The exact information subject to the responsibility will, of course, depend on local context, given the variation in the kinds of suffering and the locally available resources for meeting human needs. Now, since human lives are quite complex, the amount of information that has the potential to reduce suffering can become unwieldy. We can introduce a principle, however, to limit the number of details included in a curriculum *without* reducing the curriculum’s power to fulfill the responsibility, namely that the curriculum *empower* students to find the omitted information on their own. In this way, although the curriculum doesn’t directly provide all the information students may need to reduce suffering in their lives, it nevertheless provides them with access they might not otherwise have had, and thus enables students to tackle the problems of their own human suffering themselves.

This criterion and principle, then, may be used as part of evaluative and heuristic tools to identify areas of improvement in existing educational programs and

provide a basis for comparison between the education provided in different regions of the world in support of monitoring and working toward the commitments to education articulated in global agreements, such as the UDHR, Education For All, and the Millennium Development Goals.

### CHAPTER 3 FRAMEWORK: DEVELOPING THE SCHEMA

This criterion developed from viewing education as a human responsibility suggests a method for outlining a number of necessary components for the curriculum of any system of education that attempts to fulfill the educative responsibility of a given society to its members: examine the various facets of a flourishing life and determine the educational prerequisites for flourishing in each area. In this way, education becomes a means for empowering students to improve their own condition, insofar as the constraints of external resources, political and social structures, and events outside one's control allow. Of course, this principle of education for empowerment by itself does not guarantee an actual improvement in the student's condition: Such an improvement is contingent on the student's willingness to act on the education received and is further limited by the systemic features of the student's environment. However, an empowering education maximizes students' *potential* for flourishing in their given environment, and may even enable them to effect some degree of systemic change. In this way, such a curriculum will resemble the EFA description of the knowledge, skills, and tools

required by human beings to be able to survive, to develop their full capacity, to live and work in dignity, to participate fully in development, to improve their quality of their lives, to make informed decisions, and to continue learning.

The current international discussions on human rights have received a certain amount of criticism for their focus on the individual. A number of cultures, critics argue, emphasize the importance of community and of group rights and responsibilities in such a way that individual human rights come across as an imposition of a foreign concept, a kind of legal or cultural neo-imperialism. Although the method for developing curricula above uses phrases that suggest an emphasis on the individual student, the method does not have to conflict with communal cultures for two reasons: First, the method may be applied in contexts where individuals have a cultural responsibility to use their means for the good of the group just as well as in more individualist cultures. Second, the method does not inherently suggest that students must learn on their own. Rather, the principle of education to empower students to effect their own improvements of their condition includes preparing students to identify, locate, and utilize new sources of knowledge, skills, and tools to continue their education in ways that will lead to solutions of their own (or their communities') problems. This may include sources of private or self-contained learning (such as books and libraries used for self-directed study), as well as communal, relational, or interactive learning (such as group discussions,

personal tutors, or apprenticeships). An effective curriculum designed to enable students to continue their intellectual and technical growth will give them the tools to interface with whatever means of learning are available in their local culture and context, whether they be individual or communal.

With these preliminaries in place, the following discussion examines a series of content areas that are required by the criterion developed from the notion of the human responsibility to education, keeping in mind the principle of educating to empower further learning and active improvement of one's condition. Although the content is divided into disciplines for systematicity of the discussion, this division does not imply any particular instructional strategy; and in particular, the division does not exclude subject-integrated methods of teaching.

### **Foundational Skills**

Among the available knowledge and skills that have the potential to reduce suffering, some are fundamental, and lay the groundwork for future learning. These foundational skills support other content areas and constitute the core of the principle of empowering students for further learning.

### COMMUNICATION

As social beings, we make use of various forms of communication to share experiences, express desires, and influence behavior. In addition to enhancing one's ability to participate in and promote positive social relationships, being able to communicate effectively empowers students to receive and transmit information vital to their well-being, as well as influence others whose actions affect their lives. Moreover, communication skills are an inherent prerequisite to effective learning, and thus supplement all other areas of education. Therefore, a sufficient education will include instruction in the modes of communication relevant to the student's context.

#### *Language*

In some regions of the world, several maternal languages exist alongside each other, and these may be distinct from the dominant trade language or the language of government. Insofar as participation in business and government are important contributors to a student's well-being, and as effective communication in the dominant languages of commerce and government is necessary for participation, a sufficient curriculum must prepare students to communicate in the applicable languages. The primary language of instruction, however, is a matter of local policy preference, and will vary depending on local student needs.

### *Reading*

In the modern era, an increasing wealth of information is available in written form, some of which can lead to significant improvements in well-being or preserve life. As a result, a sufficient education will prepare student to read the kinds of documents they will commonly encounter in life. These may include newspapers, informational pamphlets, technical manuals, business agreements, and government documents. Moreover, the curriculum should enable students to read for self-directed study so that they may obtain the information most pertinent to their won lives as well as their community.

Some argue that teaching literacy to certain relatively remote peoples with ancient oral traditions constitutes a kind of cultural imperialism, and should therefore be avoided. However, the responsibility to share certain vital information (particularly health-related) and the fact that this information is increasingly available in written form suggest that the “external interference” of rendering literacy training available is a genuine expression of good-will, and not of imperialism. One can imagine other scenarios of providing the information in oral form (such as through recordings or intermediaries), and these alternatives may be viable in some limited settings; however, in general, withholding literacy inhibits access to the existing storehouses of life-saving and life-promoting knowledge.

### *Verbal Expression*

In addition to being able to understand the communiqués of others, throughout their lives, students will need to express their own thoughts, desires, and needs to others verbally. This includes private communication, public speaking, and writing, insofar as these modes support the activities laid out in the following sections. Furthermore, a sufficient curriculum will include training in any special forms of communication necessary to lend credence to messages in a given culture. For example, some oral cultures make sue of storytelling as a means of persuasion and political discourse; in other cultures, business letters take on a certain style. Students should gain a facility with the forms and styles of verbal expression respected and current in their particular culture.

### *Tools*

With the advent of relatively inexpensive electronics, telecommunications and computer technology are increasingly becoming significant means of conducting business, government, and civil society for greater and greater populations. As a result, a sufficient curriculum will at minimum give students an awareness of the available communication tools (such as community fora, postal systems, email,

and the web) and indicate how students may learn more about them or make use of them.

### NUMERACY

Just as verbal expression yields rich qualitative description of one's surroundings, numeracy permits quantitative description of the world. The ability to think and communicate quantitatively constitutes a vital piece of the foundational skills necessary for the remaining content areas. At minimum, a sufficient education will include counting, quantitative reasoning, marking the passage of time, arithmetic, basic geometry, and elementary algebra.

### REASONING

Inevitably, students will face problems in life—threats to their well-being. A sufficient education will equip them to analyze these problems, identify resources and potential solutions, and make decisions for action based on their conclusions in order to meet the challenges to their well-being. These skills fall under the umbrella of critical thinking and reasoning, and include:

1. Evaluating data—Students should be able to understand the applicability of information to a given situation, identify missing information, and evaluate the trustworthiness of information.
2. Identifying stakeholders—Students should be able to identify all of the people and things that have an interest in or are affected by a given situation.
3. Making inferences—Students should be able to make, support, and evaluate inferences based on the available information and its quality.
4. Analyzing causal relationships—Students should understand that events can have multiple interwoven causes, and should be able to analyze how various causes interact (either mutually reinforcing or canceling) to produce an outcome.
5. Identifying potential solutions—Based on their knowledge of the causes and circumstances of a given solution, students should be able to identify possible actions that could affect an outcome or change the status quo.
6. Predicting potential outcomes—Students must furthermore be able to predict the outcome of possible actions and assess the net benefit or loss, direct or indirect, to all of the stakeholders in the situation.

7. Decision-making—Given the potential outcomes, students should be able to select an option based on its merits, understanding the effect of trade-offs and concessions, and aware of its consequences, positive and negative, for those involved.
8. Making arguments—In every stage of problem-solving, students should be able to explain their thinking, support their conclusions, and evaluate the arguments of others. They should be able to recognize and avoid common logical fallacies, such as post hoc, ad hominem, straw man, begging the question, guilt by association, and special pleading.<sup>15</sup>

It is important to note that none of these skills excludes the possibility of reasoning and problem solving in group settings. Although students must have a certain individual capacity in these areas in order to contribute actively in group reasoning, the pooling of perspectives and ideas that occurs in group discussion has the potential for higher-quality analysis, conclusions, and decisions. Consequently, it could be beneficial to encourage students to work out their problems in group settings.

#### RESEARCH

In addition to being able to think critically, students must be able to conduct inquiry in support of their problem-solving needs. This includes:

1. Formulating a clear research question—Students must be able to articulate the information they need in order to have a firm grasp on the question at hand as well as to solicit the aid of others.
2. Locating sources of information—Students should be aware of the resources available to provide data relevant to their question. This includes “book research” (collections of pamphlets, newspapers, records offices, technical manuals, libraries, and electronic resources such as the internet, as available), investigative or experimental methods, and people who are likely to have or can lead one to the desired information.
3. Evaluating sources of information—Students should be able to judge the trustworthiness of various sources for different kinds of information and understand the limitations of the information obtained.

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<sup>15</sup>Although several fallacies are named here using the vocabulary of formal logic, this vocabulary is not a necessary feature of instruction. The ideas behind sound and fallacious reasoning can be explained and understood without the formalisms of philosophy; and, it is possible that discussing the ideas without the formalisms may lead to a greater facility in applying the ideas in real-life contexts, which is, after all, the intent of the training.

## Disciplinary Content

In addition to the foundational skills, knowledge and skills are available that have the potential to reduce suffering in specific aspects of one's life. Since many of the specific details of this disciplinary content are less crucial to one's overall ability to wrestle with the problems of suffering, in times of resource scarcity, educational planners may reduce information included in the disciplinary content category much more than the foundational skills. In these cases, a sufficient educational system would still have to ensure that students are properly oriented to the sources of knowledge available in each content area, even if the knowledge itself isn't provided in full.

### HEALTH

Knowledge about physical and mental health stands at the vanguard of human flourishing. Few other life circumstances affect one's overall well-being more than the degree of physical wellness or sickness, since a sound body serves as a prerequisite for a long life than can be filled with other goods.<sup>16</sup> As such, no education can be said to completely fulfill the human responsibility to educate without including instruction in "habits for healthy living," as well as knowledge about what to do when illness or accidents inevitably arrive. Such a curriculum would include:

1. Nutrition—Students should be aware of the body's nutritional needs and how the locally available foods can meet them.
2. Exercise and rest—In regions where common employment and leisure activities generally lead to a sedentary lifestyle, students should be aware of the importance of physical activity in promoting overall health. Furthermore, in regions with a strong prevalence of obesity, anorexia, bulimia, or other eating disorders, students should be aware of healthy weights, the causes of weight problems and eating disorders, and how to avoid them. All students should also understand the importance of rest in establishing a balanced lifestyle and a healthy mind and body.
3. First aid—Students should know how to treat common mild ailments (eg., cold, flu, diarrhea, minor cuts and burns), as well as be able to recognize when a problem requires medical attention.
4. Disease awareness—Students should be able to recognize common diseases, understand how diseases spread, and know disease prevention strategies (eg., hand washing, food safety, temporary quarantine, boiling water, if necessary).

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<sup>16</sup>This is not meant to imply that those suffering from lifelong disabilities cannot achieve a life full of meaning.

5. Sexual health—Age-appropriate students should be aware of safety concerns in sexual intercourse, particularly with respect to sexually transmitted diseases including HIV/AIDS in regions affected by it. Although sexuality is a taboo in some cultures, given the harmful potential outcomes in sexual activity and the knowledge available to minimize their probability, curriculum planners and other social leaders bear a responsibility to find or create culturally appropriate means of disseminating information on sexuality.
6. Maternal/infant health—Lifelong wellness begins at the earliest stages of life—in the womb and just after birth. During this period, children are at most risk for serious illness and premature death. Given the importance of maternal and infant health in promoting well-being, students (particularly mothers and potential mothers) should understand the particular health concerns during this sensitive stage of life.
7. Personal safety—Students should have strategies for maintaining their personal safety, as necessary given the local context.
8. Medical facilities—Students should be aware of the locally available medical facilities, including hospitals, clinics, and private practitioners. They should have a basic understanding of their purpose, scope, and functioning, as well as a knowledge of any state-provided health care and the regional health care and health insurance system, as available.

#### GOVERNMENT

Systems of social decision-making and law establishing affect the lives of every human being. These range from town or tribe elders to extensive national governments. Because these political structures will inevitably have an impact on students throughout their lives, students should have a general knowledge of how the applicable instruments of government function, as well as how they as citizens may participate in or otherwise influence the corporate decision-making process.

#### ECONOMICS

##### *Financial Literacy*

Systems of financial currency have permeated nearly every corner of the globe. In addition to knowing the local currency and banking system, as available, students should understand the importance of rationing wealth and planning for the future. Furthermore, students should be aware of the local system of borrowing and lending, as well as the costs and benefits of debt and the kinds of circumstances in

which borrowing is wise. This is particularly important in regions that have a very readily available and active consumer credit industry.

### *Entrepreneurship*

Some labor markets cannot currently support the number of workers available, leading to high rates of unemployment. As a result, students cannot always count on a job as an employee in an established company to be waiting for them. Rather, students should receive entrepreneurial training so that they may create employment for themselves and others. This training should include:

1. Recognizing where a need for goods or services exists
2. Preparing a business strategy
3. Understanding business cash flow and basic accounting
4. Familiarity with basic marketing
5. Knowing how or where to obtain capital
6. Being aware of the legal requirements on business

Even if students are able to obtain traditional jobs, many of these skills can help them excel in the workplace and may provide opportunities to enter positions of leadership in their company. Most important, however, is the principle that students can recognize the need for and act toward effecting improvements in their lives and communities. Just as students can create jobs through entrepreneurship where there are none, they can also recognize and work toward systemic change to improve their overall quality of life.

## EMPLOYMENT

### *Obtaining Work*

Even when jobs exist, finding work is not always a trivial process. Students should be aware of resources that can help them locate available employment (such as classified ads, job placement services, networking, and town centers, according to the context). Furthermore, students should know how to present themselves in such a way that highlights their qualifications, and they should understand the local conventions for soliciting employment (including resumé writing, job applications, and interviews, as appropriate). Finally, students should be aware of the kinds of compensation in addition to salary that are in common usage in their region.

### *Technical Skills*

Much of what remains in the curriculum consists of technical skills for use in the kinds of employment available locally. Student learning needs in this category will likely vary much more than in other categories, given the vast diversity of economic activities around the world. While it is certainly not possible to train every student in every possible career field, students should receive the knowledge and skills necessary to make them attractive candidates in the local job market or to prepare them to fulfill local needs through self-employment, as well as give them an orientation to the resources available for further training along with the skills necessary to approach that training successfully. In regions in which post-secondary education is generally required for competitiveness in the job market, “technical skills” also includes the academic curriculum required by the available post-secondary institutions.

### **Community**

Despite the beliefs of Rousseau and Locke with respect to the “natural” state of mankind, no one is born into a vacuum. Rather, we not only come into the world with social connections (beginning with our mothers), we must maintain social connectivity for full, healthy development. As part of our nature as social creatures, we have a need for a sense of belonging among our fellow human beings. Some cultures instill a strong sense of group identity through customs and ritual. Others, particularly those in which technology and other social pressures have permitted an increasing tendency toward social isolationism, leave children to fend for themselves in discovering their place in the social fabric. In these latter societies, where children tend not to acquire group identity informally, the educational system may need to provide students with formal or nonformal educational experiences that foster students’ identity as members of a group. Such activities may include learning local or national history and creating, participating in, or appreciating ethnic literature, art, music, and dance.

In addition to identification as a member of a group, full, healthy social development requires the acquisition of certain skills for positive interpersonal interactions. These include politeness, mutual respect, admitting when one has erred, asking and extending forgiveness, and perhaps most importantly, understanding that each person comes to a situation with a different perspective. These different perspectives have the potential to cause misunderstanding when overlooked and to enrich understanding when shared. Moreover, students should receive tools for approaching the resolution of conflict; and particularly in regions affected by war, students should participate in peace education.

Students should also receive a certain practical orientation to living in their local community, including how to locate and obtain adequate housing, how to use the locally available means of transportation, and the rights and responsibilities that come with living in the community. These rights and responsibilities include not only those granted by the local community or government, but also those rights and responsibilities included in international treaties.

### **Functioning of the Schema**

Thus, together, the criterion, the procedure, the principle, and the outline of content areas form a schema for basic education curricula. That is, they form a way of thinking about (and therefore developing, analyzing, and evaluating) the content of educational systems, in terms of Pogge's broad understanding of *institution*. Since the schema is based on a foundation developed from universal principles of human responsibility, the schema has universal applicability. Moreover, due to the foundation of responsibility, the schema addresses only what is *required*, not what is *permitted*; thus, the schema establishes a kind of mandatory minimum for curricula beyond which educational systems may certainly grow.

### **FROM SCHEMA TO CURRICULUM**

Now, this schema is not itself a curriculum, but rather a way of thinking about curricula. This distinction is not merely pedantic: In order to retain universal applicability, the schema simply cannot supply the level of detail necessary for useful curricula. These details depend on the specifics of students' learning needs, which, of course, vary with the students' local context. Instead, the schema defines—abstracted from any on particular context—a framework for judging necessity of inclusion of particular context details and a structure for organizing those details systematically for thorough analysis. Thus, although the schema cannot be implemented directly in a classroom or other educational setting like a curriculum can, the schema finds its utility in helping planners think thoroughly through the content to include in the curriculum to fulfill the moral responsibility to educate, as well as in facilitating structured, qualitative comparison of curricula from different parts of the world, despite variation in local customs and available resources and opportunities. In such comparisons, analysts determine for each content area how well the curricula meet learning needs given the local context, and can then make comparative statements about how well each curriculum achieves this goal. As such, the schema acts as a kind of normalizing factor in the analysis.

Given the context-independence of the schema, moving from schema to curriculum requires local contextualization. To achieve this, planners follow the same procedure of examining each content area to determine what knowledge satisfies

the criterion of reducing suffering given local particulars, keeping in mind the principle that empowering self-improvement in a given area satisfies the responsibility to educate just as well as providing every detail explicitly. Since the schema makes few assumptions about student characteristics, the schema can be applied special education just as well to general education merely by taking into consideration the particularities of special education students' additional learning needs and capacities during contextualization. Ideally, contextualization would take place through a local participatory process including those closest to the target population, since these are the most familiar with the specifics of their daily lives. In some cases, those closest to the target population may not be well educated themselves, and thus won't have a firm grasp of the array of knowledge and skills available to meet learning needs.<sup>17</sup> Nevertheless, these individuals have a detailed understanding of the values, customs, and needs of the target population and can play a crucial role in matching potential curricular content with the local context. These cases highlight the importance of carrying out planning and analysis via the schema in dialog between locals and outsiders. The former have in-depth knowledge of learning needs, while the latter may have greater awareness of the knowledge available to meet those needs. Dialog brings the two kinds of expertise together to achieve a better solution than either party could have achieved alone.

#### FROM SCHEMA TO LEARNING

One goal of using the schema in designing curricula is, of course, to improve students' actual learning. However, the schema is largely ignorant of the eventual delivery method of the curricula it generates. Educational planners will want to take into consideration and make use of the available variety of formal, non-formal, and informal learning opportunities. For example, in regions with a highly-developed formal banking system, planners may need to include explicit instruction on borrowing and lending in a formal school curriculum; whereas, in places where borrowing takes place through social networks and is regulated by social norms, planners may decide that students acquire these skills sufficiently through informal learning at home.

Moreover, despite the schema's emphasis on knowledge that has the potential to reduce suffering, improving curriculum plans for formal and non-formal learning opportunities may not be sufficient to achieve an actual improvement in students' quality of life for these reasons. First, curriculum, as important as it is, is only one component of successful educational activities. Students must also be present and have capable teachers and adequate facilities and materials, each of

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<sup>17</sup>This is particularly true when adult learners make up the target population, as these learners are the likeliest candidates for participation in the planning process.

which poses challenges in development efforts. Consequently, use of the schema will likely form only one component of larger educational development projects. Second, education alone may not be able to reduce suffering in situations where systemic barriers hinder improvement in quality of life. For example, knowing about nutritious food does little to improve health if local markets have little to sell; or, being able to start a cottage industry has only limited effect if the transportation infrastructure used to deliver goods is of poor quality. As a result, nations will want to maintain a comprehensive development strategy to reduce these systemic barriers so that improved education can have its full effect. Finally, successful instruction cannot guarantee a desired change in behavior that could reduce suffering and improve quality of life, unless students are also *motivated* to apply what they've learned, which is not necessarily a trivial task.

### **Comparison with Other Proposed Universal Curricula**

Although the international community at large has failed to engage in detailed description of the minimum requirements for the content of any sufficient educational system, others in the past have endeavored to make claims about what everyone needs to learn. This schema shares a number of characteristics with these proposed universal curricula; however, these other curricula tend to lack intercultural transferability and may neglect some of the kinds of content required by the responsibility to educate.

#### ADLER: PAIDEIA PROPOSAL

Mortimer Adler's American K–12 education reform recommendation, known as the Paideia Proposal, is based in the tradition of Thomas Jefferson, Horace Mann, and John Dewey. This tradition claims that no democracy can stand without an educated citizenry, that equality of educational opportunity is necessary for maintaining an educated citizenry, and that the common school is central in promoting equality of educational opportunity and national unity. Adler presents three main objectives for education geared toward democracy: preparation for personal growth or self-improvement, preparation for participation in governance, and preparation for earning a living.<sup>18</sup> He calls for a single-track “program of study that is both liberal and general,” along with the elimination of electives, which he claims only serve to allow some students to “downgrade” their education.<sup>19</sup> He divides his curriculum among the subjects:

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<sup>18</sup>Mortimer Adler, *The Paideia Proposal: An Educational Manifesto*, New York: Collier Books, 1982, at 16–17.

<sup>19</sup>*Ibid.*, 21

- Language, Literature, and Fine Arts
- Mathematics and Natural Science
- History, Geography, and Social Studies
- Physical exercise and manual activities
- Preparation for choosing a career

which include the skills of:

- reading, writing, speaking, listening
- calculating, problem-solving, observing, measuring, estimating
- exercising critical judgement
- discussing books and other works of art
- involvement in artistic activities

Although Adler’s understanding of equality educational opportunity is heavily dependent on equal quantity and quality of inputs, such as number of years and program of study,<sup>20</sup> he concedes that not all families are able to prepare their children equally for school and that some children will require “preschool tutelage” to provide them with the same initial footing as their more-advantaged peers.<sup>21</sup>

The universal schema for basic education curricula presented here shares Adler’s emphasis that basic education should prepare students for self-improvement and post-school learning, as well as several of the subjects in the Proposal’s curriculum, such as literacy, numeracy, reasoning, government, and preparation for future careers. However, Alder leaves out several content areas deemed necessary in the schema by the moral responsibility to educate, such as research, health (not just physical exercise), and financial literacy. The Proposal also suggests a number of pedagogic practices, which the schema leaves open to implementation choices by local planners. Moreover, it is difficult to see how the relatively detailed Paideia Proposal could be applied directly in diverse settings.

Adler intends the Paideia Proposal curriculum to apply with universality to all children of normal ability. To justify this almost radical sameness, Alder emphasizes the common humanity of all children:

Despite their manifold individual differences, the children are all the same in their human nature. They are human beings and their human equality consists in the fact that no child is more or less human than another.

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<sup>20</sup>*Ibid.*, 4

<sup>21</sup>*Ibid.*, 38

Their sameness as human beings—as members of the same species—means that every child has all the distinguishing properties common to all members of the species. They all have the same inherent tendencies, the same inherent powers, the same inherent capacities. The fact that individuals possess these common traits to different degrees is itself proof that they share a common nature at the same time that they differ in degree in the many ways that make each a unique individual. Individual differences are always and only differences in degree, never differences in kind.<sup>22</sup>

The argument for universality from shared humanity is similar to (though much stronger than) the statement on “shared concerns” in the World Declaration on Education for All;<sup>23</sup> however, Adler fails to take into consideration significant variation in culture and life opportunities that exists across the globe. Admittedly, Adler’s focus is squarely on education in the United States,<sup>24</sup> but the Proposal faces significant challenges to transference to other nations, even after relaxing some of the strong ties to U.S. education. Foremost, Adler begins with the idea that successful democracy requires an educated citizenry. However, since not every nation-state or cultural group in the world is indeed a democracy,<sup>25</sup> the foundational motivation for the curriculum breaks down. Moreover, the Proposal’s curricular expectations seem extraordinarily high, given the current state of many developing nation’s educational capacity. For example, the Paideia mathematics curriculum suggested by Charles Van Doren includes differential and integral calculus. Now, while Van Doren concedes that most people won’t actually *use* calculus after leaving school, he defends its inclusion on the basis that “its bedrock utility has a beauty of its own.”<sup>26</sup> But, when many nations struggle to provide basic literacy education to their entire population due to limited resources, the inherent beauty of advanced concepts provides little motivation for expanding educational efforts. Similarly, Adler’s insistence on twelve years of schooling (for which he never provides a justification) may be out of reach for countries where children are lucky to receive four. The adaptations required to apply the Paideia Proposal beyond Adler’s original focus present significant limitations to its usefulness as a truly universal analytic

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<sup>22</sup>*Ibid.*, 42–43.

<sup>23</sup>Quoted on p. 5 herein.

<sup>24</sup>Even then, the United States is not culturally monolithic, and Adler’s proposal may prove too inflexible to meet varying demands within one nation, such as they are. See, for example, Charles Glenn, *The Myth of the Common School*, Amherst: University of Massachusetts Press, 1988, pp 278–283.

<sup>25</sup>The question of whether every nation *should* be a democracy lies outside the scope of this work.

<sup>26</sup>Charles Van Doren, “Mathematics,” in *The Paideia Program: An Educational Syllabus*, Mortimer J. Adler, ed., New York: Macmillan, 1984, at 80.

and planning tool for thinking about curricular content in international educational development, and the Proposal gives little theoretical assistance in making such adaptations. Instead, the schema for basic education curricula has in mind the necessity of local contextualization from the beginning, and provides a theoretical foundation and process by which to apply its principles in diverse settings.

#### HIRSCH: CORE KNOWLEDGE

Along similar lines, E.D. Hirsch argues that successful participation in society (not necessarily a democratic one) requires fluency in a body of cultural references, which he originally termed “cultural literacy.”<sup>27</sup> Accordingly, schools help children learn by providing exposure to the broad base of information that constitutes common knowledge in society. This knowledge then acts as a hook for students to assimilate further knowledge as they encounter it. Through a consultative-consensus process that included “parents, teachers, scientists, professional curriculum organizations, and experts on America’s multicultural traditions,” Hirsch developed a curriculum taken to comprise a large section of the cultural knowledge needed to function well in American society, dubbed the Core Knowledge Framework.<sup>28</sup> The consultative processes used in developing the Core Knowledge Framework resembles the emphasis on local participation in the contextualization process used to generate curricula from the schema. Furthermore, as the schema sets a minimum for curricular content, Core Knowledge is suggested to make up only about half of the school curriculum. Hirsch and the schema for basic education curricula also share the common conviction that there are some things all students need to learn; however, they take different approaches to identifying what this includes.<sup>29</sup> Hirsch claims that this body of knowledge depends on the currency of cultural references; whereas, the schema develops a set of content areas based on the kinds of knowledge available to reduce suffering. Certainly, some of

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<sup>27</sup>E.D. Hirsch, *The Schools We Need and Why We Don’t Have Them*, New York: Anchor Books, 1996.

<sup>28</sup>Core Knowledge Foundation, *Core Knowledge Sequence: Content Guidelines for Grades K–8*, 1999, at 213–214.

<sup>29</sup>Personal excursus: One afternoon as I was chatting with Daniel Davis, professor of Curriculum and Teaching at Boston University, on hearing the subject of my thesis, he asked me what I thought of E.D. Hirsch. Coincidentally, I was working on this very section. After I described my views briefly, he said, “Speaking of which, do you know what today is?” “The fifth of May, Mexican liberation day, but I don’t see what that has to do with Hirsch,” I replied. “It has everything to do with Hirsch,” he said. “When he came out with the list [in *Cultural Literacy: What Every American Needs to Know*], they asked him why Cinco de Mayo wasn’t on it. He said that he didn’t know what it meant,” demonstrating that what counts as “common knowledge” depends in some degree on whom you ask. I confirmed the anecdote in: Jon Meacham, “Global Literacy: What You Need to Know Now,” *Newsweek*, July 2–9, 2007.

the knowledge comprising cultural literacy may have potential to reduce suffering; but, the Core Knowledge Framework itself fails to cover all of the schema's content areas adequately. For example, Core Knowledge mentions nothing of infant and maternal health, interfacing with health facilities, financial literacy (beyond working math problems relating to money), or entrepreneurship. Moreover, perhaps due to the development of Core Knowledge as a reaction to skills-only instruction, Core Knowledge has little to say on reasoning and research skills. As with the Paideia Proposal, the Core Knowledge Framework was developed with an eye toward the U.S. education system, and give little guidance on how to abstract its principles for application in other contexts.

### **Compatibility with Other Educational Objectives**

This schema takes fulfilling a moral responsibility to share knowledge as the motivating purpose for education and knowledge that has the potential to reduce suffering as the basis for curricula. These are not, however, the only possible purpose for education and basis for curricula. Historically, the various purposes for education have included:

- developing a particular skill (such as in music conservatories or apprenticeships)
- producing civil servants (as in late Imperial China, for example)
- creating good soldiers (as in ancient Sparta, for example)
- instilling nationalism (as in post-revolutionary France, for example)
- convenient child-care
- maintaining a totalitarian regime
- social liberation (Paulo Freire)
- preparing citizens for democracy (Thomas Jefferson)
- instilling morality or religious training
- preparing students to enter the academy

Given that the schema is based on a moral responsibility, its purpose for education and corresponding basis for curricula are clearly *required* for any legitimate and sufficient educational system (taken broadly in Pogge's sense); but, since the schema describes only the *minimum* requirements for the content of a sufficient education, the schema is also *compatible* with many of these other educational goals. Indeed, meeting the requirements of the schema may even further these additional goals.

Consider, for example, educating for macro-economic growth: A nation that desires to increase its gross domestic product (GDP) might want to implement educational policies that would encourage economic output. Such a nation would find that the entrepreneurial component of the schema fits well with economic growth as through entrepreneurial training students learn, *inter alia*, how to identify and capitalize on opportunities for economic gain. Along similar lines, content provided under the technical skills area directly increases the nation's human capital, and improved knowledge of health can increase the productivity of the working force by reducing time lost to illness.

Democratically-minded nation-builders have also seen education as crucial to developing the kind of well-informed citizenry necessary for successful rule by the people. Planners with democracy in mind will find the schema's communication, reasoning, and research areas particularly attractive, since they prepare students to find information about important policy issues, develop and discuss arguments for positions on these issues, and communicate their positions with others. Furthermore, the government content area is particularly well suited for familiarizing students with how to participate in the democratic process.

In the wake of numerous civil wars and ethnic and religious violence over the past century, many in the international community have called for widespread peace education to diffuse conflict and reduce violence. The interpersonal skills content area includes skills crucial to spreading peace, such as strategies for handling interpersonal conflict and understanding the role perspective plays in interpreting others' actions. Additionally, in some areas, an increased sense of empowerment and overall well-being fostered by the schema as a whole may reduce a desire some students have to lash out violently at others in a desperate attempt to feel some measure of control in their own lives.

Finally, in some countries with well-developed systems of higher education, primary and secondary education have a tendency to be seen mainly as preparation for participation in university studies. In these cases, curricular goals at the lower levels are frequently shaped by demands at the higher levels for prerequisite competencies. Like those interested in educating for democracy, those interested in educating for the academy may emphasize the foundational skills category (communication, numeracy, reasoning, and research) as these content areas form a solid basis for advanced studies in the arts and sciences. Since academic studies also required detailed discipline-specific knowledge, planners who want to educate for the academy will likely include material in their curricula that goes beyond the minimum established by the schema. This is certainly permissible, provided that resources for education are abundant enough to cover the remainder of the schema as well. Although educational planners with other educational objectives may be more interested in content areas of the schema than others, these examples of the

compatibility of the universal schema with other objectives do not imply that planners may pick and choose between the content areas based on their other interests. Planners may augment their curricula beyond the schema, but fulfilling the human responsibility to educate requires satisfying *all* the content areas of the schema. Instead, the examples point out that the goal of fulfilling the schema does not have to be in conflict with other legitimate educational goals, since fulfilling the schema often furthers these other goals as well.

## CHAPTER 4 ANALYSIS AND MONITORING OF CURRICULA VIA THE SCHEMA

### Process

As a way of understanding and thinking about curricula, the schema acts as an analytical tool for improving curricula and monitoring the progress of educational development. This analysis can take place on the local, national, or international level, and takes place in three steps: identifying strengths, identifying weaknesses, and identifying excesses.

Keeping in mind the criterion and principle, analysts first examine each element of the curriculum and each content area of the schema to determine correspondences—curricular standards and activities that fit into the various content area “slots” of the schema. These constitute the strengths of the curriculum, insofar as these aspects of the curriculum contribute toward the education system’s fulfilling the minimum requirements of the responsibility to educate.

Once the curriculum has been sorted among the various content areas, analysts examine each content area in the light of local conditions to determine if the content of the available educational opportunities provides enough information and information of the right kind to enable students to reduce suffering in their own lives. If there exists knowledge or skills that have the potential to reduce suffering in students’ lives, given their local context, and the education system fails either to provide the information or prepare students to locate and make use of that information on their own, the lack is noted as a weakness of the curriculum. Before labeling some aspect as a weakness, however, analysts will need to determine whether students have reasonably secure access to the given knowledge or skill through informal or non-formal means, which satisfy the human responsibility to educate just as well as an element of a formal curriculum. Furthermore, curricular analysts will need to undertake a labor sector analysis, identifying the kinds of jobs or other work to which students will have access, in order to determine how well the curricular elements in the technical skills content area match actual available work opportunities.

Finally, analysts identify elements of the curriculum that are not strictly necessary based on the schema’s criterion, the curriculum’s excesses—that is, knowledge or skills that, while interesting or perhaps even useful, have little potential to reduce suffering. Now, these excesses are *not* deficiencies or blemishes in the curriculum. After all, the schema outlines only the *minimum* an educational system must provide. In cases of abundant resources, curricular planners and teachers may be encouraged to maintain and even expand these aspects of schooling that enrich students’ lives beyond the bare minimum. However, by identifying excesses as

such, curriculum planners know which elements of the curriculum could, regrettably, of course, be trimmed in case of resource shortage (lack of time, money, teacher-training capacity, etc.).

Conducted in such a way, evaluations produce a statement of how well a given curriculum suits the local learning needs given the local context. Although the particular details of different curricula and contexts will vary, the statements of how well they correspond all have a structure based on the schema's list of content areas. As such, these statements render curricula from diverse parts of the world comparable in terms of how well they meet local learning needs (e.g. "Curriculum A is sufficient in numeracy and reasoning, but ignores the multilingualism necessary in Country A; whereas, Curriculum B takes into account its own multilingualism, but needs improvement in terms of health due to a particular widespread disease problem."). By enabling such comparisons, the schema facilitates international monitoring of the progress of improving the content of educational systems in educational development efforts, which are crucial in holding one another accountable in the global push for universal schooling as a means of reducing poverty.

### **External Observers**

International monitoring reports inevitably involve external observers, analysts who examine curricula that are intended for a target population to which they themselves do not belong. These external observers have the advantage of viewing the world with different cultural lenses, and can thus see deficiencies that others take for granted; but, they also bear the disadvantage of not having an intimate familiarity with the daily lives of the target population, and thus have a weaker grasp on the target populations actual and most pressing learning needs. Consequently, although external observers perform a useful, even vital, function in international monitoring, their observations ought to take place in dialog with local analysts. For example, suppose that an external observer notes that a given curriculum has nothing to say about housing (in the practical orientation to the community content area). Pointing this out in a constructive way to local analysts could lead to one of several responses. Local analysts might reply that planners had indeed overlooked this aspect of the curriculum, and would recommend its inclusion at the next revision. Or, they might reply, for example, that most of the students in their nation live in small villages with simple houses that children learn to construct informally by observing and helping their family and neighbors, in which case the analysts would note that the schema is satisfied in this respect through informal learning. In the spirit of dialog, the external observers might point out that children in the capital city don't live in the same kinds of houses and thus don't learn how to build their own lodging like their rural peers. This could then lead to discussion of a variety of

formal, non-formal, and informal learning options. For example, national analysts might point to (or suggest starting) a housing information service in the big cities and explain how it will be advertised, as part of providing an orientation to students for sources of information they can use to meet their own learning needs. Through dialogs like these that bring together different perspectives and assumptions, both international and local analysts achieve a higher quality evaluation of how well current educational systems meet students' actual learning needs.

### **Examples**

To illustrate the use of the schema in analyzing curricula, I present two examples of preliminary evaluations of the state-mandated curricula from two significantly different cultures: Cambodia and Virginia (United States). Neither example is complete: They include only the state-supplied formal curriculum, and thus do not take into account informal and nonformal learning opportunities, as would be necessary in a full evaluation. Furthermore, these cursory cases lack labor-sector analysis and have not benefited from dialog with those near the target populations. Nevertheless, the examples serve merely to provide a general feel for how, as an analytic tool, the schema may be applied to different curricula in evaluation and planning settings.

#### CAMBODIA

Home to the Khmer people in southeast Asia, Cambodia was under French colonial rule until 1953, and is now governed by democratic constitutional monarchy. As of 2008, it's Human Development Index rank is 131/177, placing it toward the bottom of the UNDP's "medium human development" category. Cambodia's population is 85% rural,<sup>30</sup> and 75% of the labor force is engaged in agriculture. The national basic education curriculum for grades 1–9 was recently revamped under a project funded by USAID.

#### *Strengths*

Sample standards from the national curriculum categorized according to the schema's content areas are provided in Appendix B, and notable features of the curriculum are provided below. The samples here and in the appendix are not exhaustive, but illustrate a number of the Cambodian curriculum's strengths.

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<sup>30</sup>National Institute of Statistics of Cambodia, *Cambodia Inter-Censal Population Survey 2004*, Table 2, "Estimated number households and household population by sex and average household size by total, urban and rural areas, Cambodia, 2004."

**COMMUNICATION** Since 95% of the population speaks Khmer, which is also the language of government, curriculum planners opted to forego the colonial language French in favor of the more relevant Khmer. Notice how the curriculum includes vocabulary appropriate for addressing royalty, a distinctive feature of a curriculum whose target population belongs to a constitutional monarchy. The reading curriculum provides a nice illustration of the principle of empowering self-improvement instead of supplying every possible detail students may need: Instead of trying to teach students every possible word, the students learn strategies for understanding new words and are oriented to tools such as dictionaries to help them find the information they need (namely the meaning of words) in the future.

**REASONING AND RESEARCH** The Cambodian curriculum includes a particularly interesting standard that synthesizes the reasoning and research content areas and highlights their purpose of promoting students' problem-solving capacities:

Investigate a current recognized problem in the local or national community; identify likely causes; and use an “if-then” approach to: Suggest a range of possible responses that demonstrate creative thinking; Research and evaluate the likely impact of each response.

This standard highlights how the component content areas of the schema do not imply that instruction must be similarly compartmentalized. Rather, in cases such as problem-solving, an integrated approach to instruction like this may be more intuitive and produce better results.

**DISEASE AWARENESS** While food safety is important for everyone in the world, the specific illnesses linked with food are contextually driven. While intestinal worms and typhoid, for example, may be prevalent in Cambodia, appropriate examples in, say, the United States might be *E. coli* and *Salmonella*.

**PERSONAL SAFETY** Given Cambodia's history with conflict, curriculum evaluators would want to verify inclusion of landmine awareness in the personal safety component of the health content area. In the United States, for example, landmines wouldn't be as important as, say, internet safety, included in the Virginian curriculum.

**EMPLOYMENT** In the Cambodian curriculum, students interview adults to describe skills they need to perform their job, identify how those skills are acquired, consider possible career options, investigate training requirements and educational opportunities to prepare for those careers, and enumerate work habits and ethics necessary for employment. These standards provide an excellent illustration of orienting students to a given field: It isn't feasible to teach students everything they would need to know about every possible career option. Instead, the Cambodian curriculum gives students an *orientation* to possible careers and *empowers* them

with the tools they'll need to fill in the gaps in their learning after schooling is complete.

**TECHNICAL SKILLS** Along with elements from various branches of science, the curriculum includes knowledge and skills related to agriculture and possible cottage industries.

**GROUP IDENTITY** To foster a Cambodia identity, the curriculum includes standards that promote nationalism, elements of Cambodian history, and several typically Khmer arts (such as traditional dances, decorative patterns, and musical instruments).

**INTERPERSONAL SKILLS** In teaching students proper greetings, the Cambodian curriculum includes monks among the people to whom one should show respect. Including monks fits in well in Cambodia, which is 95% Buddhist; whereas, say, an animistic society in Africa wouldn't have monks, but may have ways of respecting elders or other community leaders. This illustrates the importance of local participation in the contextualization process, since an outsider who knows a great deal about proper health techniques may not be aware of important social mores.

### *Weaknesses*

Although a confident statement of the curriculum's weaknesses would require a much more detailed examination of curricular content along with a full labor-sector analysis, this rough overview does suggest a few preliminary areas in which the curriculum could be improved. For example, the health curriculum includes caring for infants, but neglects the health of mothers, particularly during pregnancy. Although the math curriculum includes using currency, the curriculum fails to provide grounding in general financial literacy, including borrowing and lending. Along the same lines, although there are a number of preliminary entrepreneurial skills—such as identifying needs, organization skills, planning, and advertising—the curriculum could use more detail on practical business strategies. Finally, although the curriculum discusses rudimentary transportation, it is silent in terms of housing.

### *Excesses*

In terms of excesses—ways in which the curriculum goes beyond the minimum required by the schema—the literacy component includes a heavy dose of formal grammar. While grammar can certainly be helpful in understanding language and communicating clearly, it is also possible to learn to use a language well without discussing the language formally. Additionally, some of the science curriculum goes beyond the schema's criterion of knowledge that has the potential to

reduce suffering: for example, knowing the planets in the solar system. Finally, the curriculum also includes some non-local history, such as knowing about life in Ancient Greece, Egypt, and Rome. While interesting, this information has little direct impact on the daily lives of the Khmer people.

The presents of excesses does *not* itself have a negative impact on the curriculum's evaluation—these enrichments beyond the bare minimum are fine things to learn. Rather, by identifying them as excesses, we have a list of areas that could be trimmed if present resources are insufficient to address the weaknesses discovered, or if future resource constraints force a reduction in programming.

## VIRGINIA

Home to the first permanent British settlement in North America, Virginia was one of the thirteen original colonies that declared independence from the Britain in 1776 to form the United States of America. The United States' Human Development Index rank is 13/177, placing it among the most developed nations, according to UNDP. Virginia's population is 73% urban.<sup>31</sup> Per capita income in Virginia is 107% of the national average;<sup>32</sup> and its labor force consists of 38% management, professional, and related occupations, 26% sales and office workers, 14% service industry jobs, 13% production and transportation, and 10% construction and maintenance.<sup>33</sup>

According to the U.S. constitution, responsibility for education falls on the state. The nation's strong tradition of local control in education presents particular challenges to analyzing curricular content, since most states have only in the last two decades begun to adopt officially mandated, state-wide curricula, leaving most curricular decisions to local school boards, schools, and individual teachers. Thus, conclusions drawn from state curricular documents must be tempered by the fact that they describe only a portion of what school actually teach; and in many places, full curricular analysis would require investigation at the district level. Virginia was selected for this example because its curriculum is one of the most explicitly developed at the state level, and the selection should not imply that Virginia's curriculum is representative of the overall quality of curricula in the United States in general.

### *Strengths*

Example standards from the state curriculum have been categorized according to the schema's content areas and are provided in Appendix C, with notable features

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<sup>31</sup>U.S. Census Bureau, *2008 Statistical Abstract*, Table 29 "Urban and Rural Population by State: 1990 and 2000."

<sup>32</sup>U.S. Bureau of Economic Analysis, "State Personal Income 2007" (press release), Mar 26, 2008.

<sup>33</sup>U.S. Census Bureau, "Occupations: 2000," *Census 2000 Brief* no. 25, August 2003.

of the curriculum provided below. The samples here and in the appendix are not exhaustive, but illustrate a number of the Virginian curriculum's strengths.

**COMMUNICATION** Although Spanish is growing as a first language in many parts of the United States, 89% of Virginians speak English at home,<sup>34</sup> and English remains the dominant language for commerce and government. Virginia also provides courses in a number of foreign languages, though these are not required for graduation with a standard high school diploma.

**REASONING** The Virginia Standards of Learning include applied reasoning skills in each of its primary disciplinary divisions (mathematics, science, English, and history/social science).

**RESEARCH** In accordance with the widespread access to the internet in the United States, the Virginian curriculum teaches students how to make effective use of new technologies when searching for and communicating information.

**HEALTH** In addition to providing a strong grounding in good health practices, the curriculum ensures that students are prepared to understand health information on their own once they leave school, and provides them with an orientation to recognized sources of health information.

**EMPLOYMENT** Similarly, the curriculum provides students with an orientation to potential careers and helps students identify the further educational requirements of different careers.

### *Weaknesses*

**PROBLEM SOLVING** Although the curriculum provides exercises in certain problem-solving skills (such as evaluating information and sources, making inferences, analyzing cause and effect, predicting outcomes, and making arguments), these occur within the frame of academic subject matter. Without explicit practice in analyzing personal and community problems, students may have difficulty transferring critical thinking skills in academic disciplines to real-life scenarios, particularly in thinking about how decisions will affect all of the stakeholders in the community.

**HEALTH** Although Virginia's health curriculum is particularly strong overall (including knowing about health care providers and health agencies), they say nothing about reproductive health, except perhaps for one incredibly subtle standard about "the onset of health problems that can impact health and wellness during the adolescent years" and "behavioral factors that influence the degree of risk for contracting specific diseases." Moreover, the curriculum is silent on maternal and infant health.

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<sup>34</sup>U.S. Census Bureau, "Language Use and English-speaking Ability: 2000," *Census 2000 Brief* no. 29, October 2003.

**ENTREPRENEURSHIP** Virginia's economics curriculum is rather academic in nature; and as a result, the study of entrepreneurship takes the form of understanding the relationship between entrepreneurship and the economy as a whole, rather than preparing students to become entrepreneurs themselves.

**TECHNICAL SKILLS** Similarly, the curriculum as a whole suggests that it was designed with an academic purpose in mind. This is certainly not a weakness in itself; however, as a result, the curriculum fails to provide the kind of technical skills needed by students who will join the blue-collar workers who make up nearly a quarter of Virginia's labor force. Post-secondary education certainly exists in Virginia for these jobs; but, post-secondary education is not always accessible to all students, and the public schools could serve their entire student population better by including a certain amount of vocational training.

#### COMPARISON

Overall, both curricula show strong correspondences with the schema, indicating that support for their implementation would constitute great strides toward fulfilling the human right to education in their respective countries. However, both curricula still need improvements in order to orient students adequately to all the fields of available knowledge that have the potential to reduce suffering. Both curricula include activities to orient students to potential future careers. The technical skills preparation of the Cambodian curriculum seems, on preliminary review, to be well suited for its mostly rural, agrarian society; and the Virginian well suited to the mainly white-collar and service industry-bound—however, a more detailed analysis is necessary to determine how well each curriculum prepares the non-majority-industry-bound students (non-agrarian in Cambodia, and blue-collar in Virginia). Both curricula include a solid foundation in a variety of context-appropriate health issues; but both curricula also lack sufficient coverage maternal and infant health concerns, and Virginia lags behind Cambodia in providing adequate reproductive health information (although, it is possible that local districts and schools provide this information beyond what the state requires, in keeping with the American educational philosophy of local control, particularly for sensitive issues such as sexuality). Both curricula need improvement in the practical implementation of entrepreneurial skills, but interestingly in different ways: The curricula in Cambodia and Virginia both cover some preliminary skills in entrepreneurship, but Virginia's curriculum approaches the issue from the macro-economic perspective, and Cambodia's from organizational skills and planning.

In the context of international monitoring, curricular analysis could culminate in a report that provides polychotomous appraisals of each country's curriculum with respect to each of the schema's content areas, along with an appraisal of over-

all progress, similar to the rating system used for summarizing progress in achievement of the Millennium Development Goals.<sup>35</sup> Curriculum planners would then be able to compare their curricula with the curricula in other similar nations to share ideas about what works well.

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<sup>35</sup>United Nations, *Millennium Development Goals: 2007 Progress Chart*, online [http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2007/MDG\\_Report\\_2007\\_Progress\\_Chart\\_en.pdf](http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2007/MDG_Report_2007_Progress_Chart_en.pdf)

## **CHAPTER 5**

### **CONCLUSION**

The recent push toward universalizing access to schooling is a laudable effort in the fight against poverty and human suffering by improving equity in educational access. However, schools will remain ineffective at furthering this goal if the knowledge and skills they provide to students bear little relevance to students' lives or do not cover all of the students' basic learning needs. Moreover, all people who support a given social order have a responsibility to ensure that society provides knowledge that has the potential to reduce suffering to those who need it. Some may say that any view of society that involves this kind of free exchange of knowledge is utopian, since too many people in the real world have a vested interest in hoarding knowledge. However, people do indeed bear moral obligations, whether or not they choose to acknowledge them, and the process of development includes convincing the powerful to share, give up, or use some of their power for the well-being of others. One could claim that a world in which every child has the opportunity to receive a quality education irrespective of social position or birth is fantastically utopian; and yet, this is our goal as an international community engaged in educational development. We are certainly far from achieving this goal in present reality, but by diligent effort and perseverance we can hold on to the hope of moving ever closer to our desired end.

The schema for basic education curricula presented here supports the two goals of schooling to provide equity in educational access and to fulfill the human responsibility to educate by providing a framework for thinking about curricula in terms of students' learning needs and an outline of categories of knowledge and skills to which all students ought to have access. The schema can be used as both a planning and an evaluative tool, and can thus support local and national educational reform efforts, as well as international monitoring of progress toward Education for All and the Millennium Development Goals. By paying greater attention to the content of the education we provide, we can move forward confidently with plans for expanding access to schooling, knowing that access to schooling means access to the vital knowledge students need to attack the challenges of their lives.

## DRAFT UNIVERSAL SCHEMA FOR BASIC EDUCATION CURRICULA

- **Criterion:** Knowledge/skills that have the potential to reduce suffering
- **Principle:** Empower self-improvement

### FOUNDATIONAL SKILLS

#### • **Communication**

- Language: dominant languages necessary for commerce, government, and civil society
- Reading: ability to read common documents (such as newspapers, informational pamphlets, technical manuals, business agreements, and government documents)
- Verbal Expression: ability to express one's thoughts, desires, and needs to others verbally, including any special forms of communication (eg formal business letter)
- Tools: means of communication (eg community fora, postal systems, email, web, as available)

#### • **Numeracy**

- Counting
- Quantitative reasoning
- Marking the passage of time
- Arithmetic

- Basic geometry

- Elementary algebra

#### • **Reasoning**

- Evaluating data
- Identifying stakeholders
- Making inferences
- Analyzing causal relationships
- Identifying potential solutions
- Predicting potential outcomes
- Decision-making
- Making arguments

#### • **Research**

- Formulating a clear research question
- Locating sources of information, including “book research,” investigative or experimental methods, and people who are likely to have or can lead one to the desired information
- Evaluating sources of information

### DISCIPLINARY CONTENT

#### • **Health**

- Nutrition
- Exercise and rest
- First aid
- Disease awareness
- Sexual health
- Maternal/infant health
- Personal safety
- Medical facilities

#### • **Government**

- How decisions are made
- How to participate in government

#### • **Economics**

- Financial literacy: currency, banking, rationing wealth/planning for the future, local system of borrowing and lending, debt awareness, consumer credit (as applicable)

#### • **Entrepreneurship:**

- Recognizing a need for goods or services
- Preparing a business strategy
- Understanding business cash flow and basic accounting
- Familiarity with basic marketing
- Knowing how or where to obtain capital
- Being aware of the legal requirements on business

#### • **Employment**

- Obtaining Employment: locating available jobs, local customs of soliciting employment, presenting oneself in a winsome way, kinds of compensation other than salary in common use
- Technical Skills

### COMMUNITY

#### • **Group Identity**

- May include history, literature, fine arts

#### • **Interpersonal skills**

- Understanding perspective
- Politeness, mutual respect

- Admitting when one has erred, asking and extending forgiveness

#### • **Practical orientation to the community**

- Housing, transportation
- Rights/responsibilities of living in the community

## **APPENDIX B**

### **EXAMPLES FROM CAMBODIA**

The current national curriculum for grades 1–9 in Cambodia was designed in 2004 through the USAID Improving Basic Education program under strategic objective 442–011. The curriculum was classified according to the universal schema for basic education curricula. The following examples are not exhaustive.

#### FOUNDATIONAL SKILLS

##### **Communication**

- Language
  - Khmer
  - Give definition of noun accurately (Grade 3)
  - Write out scripts of short role plays that include examples of the words to be used when addressing Royals (Grade 7)
- Reading
  - Read, comprehend, and identify the intended audience and purpose of examples of different non-fiction text types that contain polysyllabic words including newspaper articles, multi-step instructions, and simple timetables (Grade 5)
  - Use different strategies to obtain meaning from unfamiliar words and texts including dictionaries, glossaries, and context (Grade 5)
- Verbal Expression
  - Write letters in a neat and nice forms (Grade 3)
  - Write folio of short texts, for different audiences and purposes that includes a narrative, persuasive letter that express an opinion, personal letter, diary entry, short poems (Grade 5)
  - Complete examples of simple forms (information sheet, library slip) (Grade 7)

##### **Numeracy**

- Read and write in Khmer notation (Grade 1)
- Ask and answer questions related to quantity (Grade 1)

- Develop a problem in a real life situation and develop a solution using a range of mathematical techniques (Grade 7)

## **Reasoning**

- Evaluating data
  - Distinguish between facts and opinions when listening to information (Grade 5)
  - Evaluate information and ideas presented in talks given by others for relevance, persuasiveness and clarity (Grade 9)
- Analyzing causal relationships
  - Identify causes and effects [in short information texts] (Grade 3)
  - Use connecting words in speech that link cause and effect such as because and so (Grade 3)
- Identifying potential solutions
  - Suggest possible approaches and strategies to solve a given small, limited problem (Grade 3)
  - Construct possible responses to the same scenarios (Grade 5)
  - Discuss how challenges to achieving [a] goal can be overcome (Grade 5)
- Predicting potential outcomes
  - Identify examples of possible supports and challenges to achieving [personal] goals (Grade 5)
  - Identify potential consequences of engaging in risky behavior (for example, drug use, playing in landmine areas, betting) (Grade 5)
  - Discuss and report on the possible consequences of different choices (Grade 9)
- Decision-making
  - Participate effectively in group situations by providing information, asking questions, expressing opinions, making suggestions and summarizing the main ideas heard (Grade 9)

- Making arguments
  - Justify answers to questions with references to and quotes from the [news-  
paper] story (Grade 5)
  - Distinguish between propaganda and reasoned argument (Grade 9)
  - Evaluate validity of conclusions in terms of evidence provided (Grade 9)

### **Research**

- Investigate a current recognized problem in the local or national community; identify likely causes; and use an if-then approach to: Suggest a range of possible responses that demonstrate creative thinking; Research and evaluate the likely impact of each response (Grade 9)
- Work in groups to construct a simple survey and collect data from up to three sources (Grade 3)
- Show how experiments can be used to solve problems by identifying a problem and planning and testing possible solutions (Grade 7)
- Identify any information in the advertisement that is useful and any information that is not useful (Grade 7)

## DISCIPLINARY CONTENT

### **Health**

- Nutrition
  - Explain the importance of eating a variety of foods and drinking clean water (Grade 3)
  - Describe how each of the following supplements contribute to good health, and how they can be included with food: iodine, iron, vitamin A (Grade 5)
  - Explain how a good diet can help prevent liver disease (Grade 5)
- First aid
  - Describe what an accident is, and identify common accidents around the home (for example, burns, falls, grazes, cuts, medicines or poisons) (Grade 1)
  - Identify how risk of accidents at home can be reduced (Grade 1)

- Disease awareness
  - Demonstrate how to wash hands carefully (Grade 1)
  - Describe how to wash body thoroughly (Grade 1)
  - Explain importance of correct use of toilets (Grade 1)
  - Present information about how to avoid and treat common illnesses and diseases, including measles, colds, whooping cough, diarrhea (Grade 3)
  - Describe how the following illnesses can be caused by eating unclean foods and water: intestinal worms, typhoid, cholera, hepatitis (Grade 5)
  - Explain the meaning of the term vaccination (Grade 5)
- Sexual health
  - Explain differences between safe and high risk sexual behavior (Grade 9)
  - Describe modes of transmission and prevention and control of common sexually transmitted diseases, including syphilis and gonorrhea (Grade 9)
- Maternal/infant health
  - Investigate and report on good practice in the care of infants (Grade 8)
- Personal safety
  - Identify dangerous places on roads near school (Grade 1)
  - Explain why helmets should be worn on bicycles and motos by drivers and passengers (Grade 3)
  - Describe safe behavior in landmine areas (Grade 3)
- Medical facilities
  - Identify the location of the nearest community health centre (Grade 3)
  - Explain the function of the community health centre (Grade 3)

## **Government**

- Observe and gather information about local district (Grade 3)
- Explain the main roles of the Royal Government (Grade 4)
- Describe the duties of local government (head of village, head of commune) (Grade 3)

- Explain the main roles and processes of the Parliament (Grade 5)
- Participate in the organization of class elections, including the allocation of particular responsibilities to different groups (Grade 7)
- Identify and explain some of the fundamental principles of democracy (e.g. people should have a choice in who the leaders of the community are; each person should have a vote; each vote should be of the same value; rules should be set out in laws decided by parliament, not one person) (Grade 9)
- Explain the importance of other characteristics of democracies, for example: neutrality of the courts, freedom of the press, freedom to form political parties, roles of opposition parties in the National Assembly (Grade 9)
- Explain the process in steps to protect the integrity of elections, and how complaints about the process of elections can be made (Grade 8)

## **Economics**

- Financial literacy
  - Understand that R50 and R100 notes represent value (Grade 1)
  - Use role play to demonstrate buying, selling, and changing R40 and R100 notes (Grade 1)
  - Use currency for buying, selling, and changing up to R10,000 (Grade 3)
  - Calculate average costs (Grade 5)
  - Convert prices into different currencies (Grade 5)
- Entrepreneurship
  - Identify and set appropriate and relevant goals and challenges for self, and monitor progress towards achievement (Grade 5)
  - Choose a small task and write a simple list of what is needed to prepare for and complete the task (Grade 3)
  - Work in groups to plan a class event (e.g. a picnic or celebration) (Grade 5)
  - Identify how the advertisement attempts to make the product or event attractive to the public (Grade 7)
  - Plan, write, design, and present own newspaper advertisement for a product of own choice (Grade 7)

- Solve consumer problems involving calculation of percentage and ratio, for example: loan repayments at simple fixed interest rates, discounts, taxes (Grade 9)

## **Employment**

- **Obtaining Work**

- Interview an adult about their job, and describe the skills they need to perform that job (Grade 5)
- Identify particular skills in a range of jobs and investigate and report on how they are acquired (Grade 6)
- Identify and find information about possible career for self after finishing school (Grade 7)
- Investigate vocational pathways and education and training requirements to develop possible career paths and work opportunities (Grade 9)
- Describe the work habits and ethics that are most important to demonstrate when in employment (Grade 9)

- **Technical Skills**

- Investigate and construct simple posters to show the steps used to grow plants (Grade 3)
- Divide common plants into categories (for example, vines, bushes, grasses) (Grade 3)
- Describe the differences between top soil and sub soil (Grade 5)
- Identify the typical characteristics of fertile soil (Grade 5)
- Report by labeled illustrations on an activity that follows the cycle of preparation, sowing, and harvesting of a common crop (Grade 6)
- Observe, monitor, and record the growth and development of an animal (Grade 3)
- Explain, in simple oral language, how to raise and care for animals used for eggs and produce (e.g. pigs, chickens, and ducks) (Grade 3)
- Demonstrate understanding of how to use three major cooking methods [boiling, grilling, frying] safely (Grade 7)
- Use simple techniques of manual and machine sewing (Grade 7)
- Demonstrate safe techniques for cutting, sewing, and darning (Grade 8)
- Produce simple clothes and ornaments (Grade 9)

- Conduct activities to show effect of pushing and pulling forces (Grade 1)
- Observe different sorts of solids that float or sink in liquids (Grade 1)
- Use a simple particle model to explain the structure and property of solids, liquids, and gases (Grade 7)
- Explain the meaning of and the difference between the following terms: solutes, solvents, and solutions (Grade 8)
- Describe basic principles involved in some separation techniques including filtration, vaporization, and magnetic attraction (Grade 8)
- Describe the structure of atoms using a simple nuclear model (Grade 9)
- Observe and describe changes in the sky from day to night (Grade 1)
- List planets of solar system and construct a diagram to show their location in relation to each other (Grade 5)
- Recognize and draw some examples of simple star constellations (Grade 6)

## COMMUNITY

### **Group identity**

- Learn first section of National Anthem and two Khmer traditional songs (Grade 1)
- Weave in a form of interlacing to make Cambodians flag and collage the Temple in the middle (Grade 3)
- Explain the meaning and procedures of national festivals (Grade 5)
- Construct a timeline depicting the period and main events of Cambodian history in the Chenla era (Grade 5)
- Follow and repeat simple movements to different rhythms, including RamVong beat (Grade 3)
- Draw patterns based on traditional Khmer styles [and] explain the significance of these drawings (Grade 5)
- Participate in . . . playing [traditional symphony] musical instruments (Grade 5)
- Describe the basic beliefs of Buddhism and Hinduism (Grade 7)
- Describe the basic beliefs of Christianity and Islam (Grade 8)

- Describe key aspects of the daily life of people and the features of social life in Ancient Greece, Ancient Egypt, and Rome (Grade 7)

### **Interpersonal skills**

- Listen to and work cooperatively with other person when working in pairs (Grade 1)
- Participate in role plays to show correct greetings in respect to parents and other family members (Grade 1)
- Learn gestures of respect to be used when greetings [sic.] parents, teachers, students, the elderly, and monks (Grade 1)
- Take part in activities to recognize good deeds, skills, and abilities in others (Grade 3)
- Explain the importance and characteristics of good friendships [and family relationships], and steps that can be taken to enhance friendships (Grade 7)
- Identify common stereotypes related to gender and explain the effect this can have on peoples lives (Grade 7)
- Identify steps that individuals can take to resolve conflict without violence (Grade 9)
- Show how different behaviors demonstrate different values (for example, honesty, courtesy, thoughtfulness, respect and their opposites) (Grade 5)
- Play a leadership role in groups by ... supporting the views of other members (Grade 9)
- Identify differences in community views about qualities, skills, and abilities associated with gender, nationality, and appearance (Grade 9)

### **Practical orientation to the community**

- Observe how class members travel to school (Grade 1)
- Understand main features of traveling on roads (traffic travels on right side of road, footpaths) [for safety] (Grade 1)
- Identify meaning of safe traffic signs on public roads (Grade 3)
- Rights/responsibilities of living in the community

- Identify some reasons for rules and laws in the community (Grade 3)
- Explain why the property of others should be cared and respected (Grade 3)
- Explain the differences between rights and responsibilities of children and give examples of each (Grade 5)

## APPENDIX C EXAMPLES FROM VIRGINIA

The Standards of Learning adopted by the Board of Education of the Commonwealth of Virginia in October 2001 were classified according to the universal schema for basic education curricula. The following examples are not exhaustive.

### FOUNDATIONAL SKILLS

#### **Communication**

- Language
  - English
  - Foreign Language (French, German, Spanish, and Latin available)
- Verbal Expression
  - The student will present brief oral reports [using] grammatically correct language and specific vocabulary to communicate ideas. (English, 3.2[e])
  - The student will edit writing for correct grammar, capitalization, punctuation, and spelling. (English 3.11)
- Tools
  - The use of current and emerging technology is essential to the K–12 science instructional program. Specifically, technology must accomplish the following: Assist in improving every students functional literacy. This includes improved communication through reading/information retrieval (the use of telecommunications), writing (word processing), organization and analysis of data (databases, spreadsheets, and graphics programs), presentation of ones ideas (presentation software), and resource management (project management software). (Science, p. 3)
  - The student will use print, electronic databases, and online resources to access information. (English, 9.9)
  - The student will use a variety of media and formats to communicate information and ideas effectively to multiple audiences. (C/T K-2.7)

## Reasoning

- In general:
  - Goal 6. Make informed decisions regarding contemporary issues ... (Science, p. 2)
  - Goal 7. Develop scientific dispositions and habits of mind including: ... respect for logic and rational thinking ... (Science, p. 2)
  - Students will recognize reasoning and proof as fundamental aspects of mathematics. Students will learn and apply inductive and deductive skills to make, test, and evaluate mathematical statements and to justify steps in mathematical procedures. Students will use logical reasoning to analyze an argument and to determine whether conclusions are valid. (Math, p. 4)
  - The student will develop the social studies skills citizenship requires, including the ability to: examine and interpret primary and secondary source documents; ... analyze political cartoons, political advertisements, pictures, and other graphic media; distinguish between relevant and irrelevant informations; review information for accuracy, separating fact from opinion; identify a problem and recommend solutions; select and defend positions in writing, discussion, and debate. (History, CE.1)
- Evaluating data
  - The student will ... compare and contrast information about one topic contained in different selections. (English, 6.5[f])
  - The student will ... distinguish between fact and opinion. (English, 6.2[a])
  - The student will ... evaluate clarity and accuracy of information. (English, 9.4[b])
- Making inferences
  - Inferences are made and conclusions are drawn about familiar objects and events (Science, 1.1[h])
  - The student will ... draw conclusions and make inferences based on explicit and implied information. (English, 6.5[d])
- Analyzing causal relationships
  - Hypotheses are formulated based on cause-effect relationships (Science, 4.1[b])
  - The student will ... identify cause-and-effect relationships. (English, 5.6[d])

- Predicting potential outcomes
  - Predictions are based on patterns of observations rather than random guesses (Science, 1.1[f])
  - Conditions that influence a change are defined (Science, 2.1[d])
  - The student will . . . make predictions about content [of a variety of fiction and nonfiction] (English, 1.9[d])
  - The student will . . . make, confirm, or revise predictions. (English, 6.5[b])
- Decision-making
  - The student will use technology resources for solving problems and making informed decisions. (C/T K-2.6)
- Making arguments
  - The student will . . . present a convincing argument. (English, 6.2[c])
  - The student will describe persuasive messages in nonprint media, including television, radio, and video [and] identify persuasive technique used. (English, 7.3[a])
  - The student will . . . use relevant details to support main ideas [and] illustrate main ideas through anecdotes and examples. (English, 9.2[b,c])
  - The History and Social Science Standards of Learning are designed to . . . develop students skills in debate, discussion, and writing. (History, p. 7)

## **Research**

- Formulating a clear research question
  - Questions are developed to formulate hypotheses (Science, 3.1[c])
  - The student will . . . construct questions about a topic. (English, 4.6[a])
- Locating sources of information
  - Simple experiments are conducted to answer questions (Science, 1.1[g])
  - The student will use simple reference materials (English, 1.10)
  - The student will . . . locate information [in fiction and nonfiction] to answer questions (English, 2.8[e])
  - The student will demonstrate comprehension of information resources to research a topic [and] collect information, using resources of the media center, including online, print, and media resources. (English, 4.6[b])

- The student will use interviewing techniques to gain information. (English, 8.1)
- Evaluating sources of information
  - The student will . . . evaluate and synthesize information. (English, 4.6[c])
  - The student will . . . select informational sources appropriate for a given purpose. (English, 6.5[g])
  - The student will . . . evaluate the effectiveness of the interview. (English, 8.1[d])
  - The student will . . . evaluate sources, including advertisements, editorials, and feature stories, for relationships between intent and factual content. (English, 8.3[c])

## DISCIPLINARY CONTENT

### **Health**

- The student will explain that good health is related to health-promoting decisions. Key concepts/skills include: personal hygiene, including care of ones teeth; personal safety behaviors; the harmful effects of misusing medicines and drugs; sleep habits; physical activity and healthy entertainment; proper nutrition. (Health, 1.2)
- The student will explain the need for specific rules and practices to promote personal safety and injury-free situations. Key concepts/skills include: bus and automobile safety; pedestrian safety; playground safety; fire safety; home safety; Internet safety; water safety; bicycle, in-line skating, skateboard, scooter, and other self-propelled-vehicle safety; the need for protective gear. (Health, 1.3)
- The student will identify the effects of drugs, tobacco, alcohol, and other harmful substances on personal health. (Health, 3.3)
- The student will analyze and evaluate the relationship between health-risk behaviors and the onset of health problems that can impact health and wellness during the adolescent years. Key concepts/skills include: the pathogenic, genetic, age, cultural, environmental, and behavioral factors that influence the degree of risk for contracting specific diseases; . . . the health risks associated with feelings of immortality and invincibility; the consequences of involvement in potentially dangerous situations; the health risks of a sedentary lifestyle; the risk factors associated with communicable and non-communicable diseases. (Health, 8.1[a,e–h])

- The student will describe the influences and factors that impact health and wellness [including] germs and disease. (Health, 2.3[c])
- The student will identify the health care providers and agencies that influence personal health. (Health, 1.5)
- The student will demonstrate the ability to use health information to improve personal health. (Health, 3.4)
- The student will [understand] the benefits of the information provided by recognized sources, such as state and local health departments, dots. (Health, 9.4[b])

### **Government**

- The History and Social Science Standards of Learning are designed to . . . enable students to understand the basic values, principles, and operation of American constitutional democracy. (History, p. 7)
- The student will demonstrate knowledge of the foundation of American constitutional government by . . . . (History, CE.2)
- The student will demonstrate knowledge of how public policy is made at the local, state, and national levels of government by . . . . (History, CE.7)
- [Students] should . . . be able to obtain, understand, and evaluate information relating to the performance of public officials; and be willing to hold those officials accountable. (History, p. 8)

### **Economics**

- Financial literacy
  - [Students] must learn to make wise economic decisions about their own lives and become intelligent consumers, employers, and workers. (History, p. 8)
  - The student will . . . recognize that people use money to purchase goods. (History, K.7[b])
  - The student will recognize that people save money for the future to purchase goods and services. (History, 1.9)

- Entrepreneurship
  - The student will identify examples of making an economic choice and will explain the idea of opportunity cost (what is given up when making a choice). (History, 3.9)
  - The student will demonstrate knowledge of the structure and operation of the United States economy by describing the types of business organizations and the role of entrepreneurship. (History CE.10[a])

### **Employment**

- Obtaining Work
  - Goal 8. Explore science-related careers and interests. (Science, p. 2)
  - The student will match simple descriptions of work that people do with the names of those jobs. (History, K.6)
  - The student will demonstrate knowledge of career opportunities by identifying talents, interests, and aspirations that influence career choice; identifying attitudes and behaviors that strengthen the individual work ethic and promote career success; identifying skills and education that careers require; examining the impact of technological change on career options. (History CE.12)
- Technical Skills
  - Science content covering: measurement, physics, chemistry, living systems, geology, astronomy, and natural resources.

### COMMUNITY

#### **Group identity**

- All students need to know and understand our national heritage in order to become informed participants in shaping our nations future. (History, p. 7)
- The student will recognize the American flag, the Pledge of Allegiance, and that the President is the leader of the United States. (History, K.9)
- The student will discuss the lives of people associated with Presidents Day, Columbus Day, and the events of Independence Day (Fourth of July). (History, 1.3)
- The student will develop map skills by . . . identifying the physical shape of the United States and Virginia on maps and globes. (History, 1.4[c])

- The standards for Virginia Studies allow students to develop a greater understanding of Virginia's rich history . . . . (History, p. 17)
- The student will explore the music of world cultures through song, dance, and movement. (Music, 3.11)

### **Interpersonal skills**

- The student will develop the skills necessary for coping with difficult relationships. (Health, 4.2)
- The student will . . . begin to follow implicit rules for conversation, including taking turns and staying on topic. (English, K.3[a])
- The student will demonstrate that being a good citizen involves taking turns and sharing. (History, K.8[a])
- The student will apply the traits of good citizenship by . . . taking responsibility for one's own actions. (History, 1.10[d])
- The student will . . . compare and contrast viewpoints. (English, 6.2[b])
- The student will recognize that communities in Virginia include people who have diverse ethnic origins, customs, and traditions, who make contributions to their communities, and who are united as Americans by common principles. (History, 1.12)

### **Practical orientation to the community**

- Driver education
- Rights/responsibilities of living in the community
  - [Students] should be aware of their rights [and] be willing to fulfill their responsibilities. (History, p. 8)
  - The student will demonstrate that being a good citizen involves . . . taking responsibility for certain classroom chores. (History, K.8[b])
  - The student will recognize why government is necessary in classroom, school, and community by: explaining the purpose of rules and laws [and] explaining that government protects the rights and property of individuals. (History 3.10[a,c])
  - The student will demonstrate knowledge of citizenship and the rights, duties, and responsibilities of citizens by . . . . (History, CE.3)

As travelers rejoice to see their home country,  
so also is the end of a book to those who toil.

Τὸ τέλος τοῦ βιβλίου, χάρις τῷ θεῷ!

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